

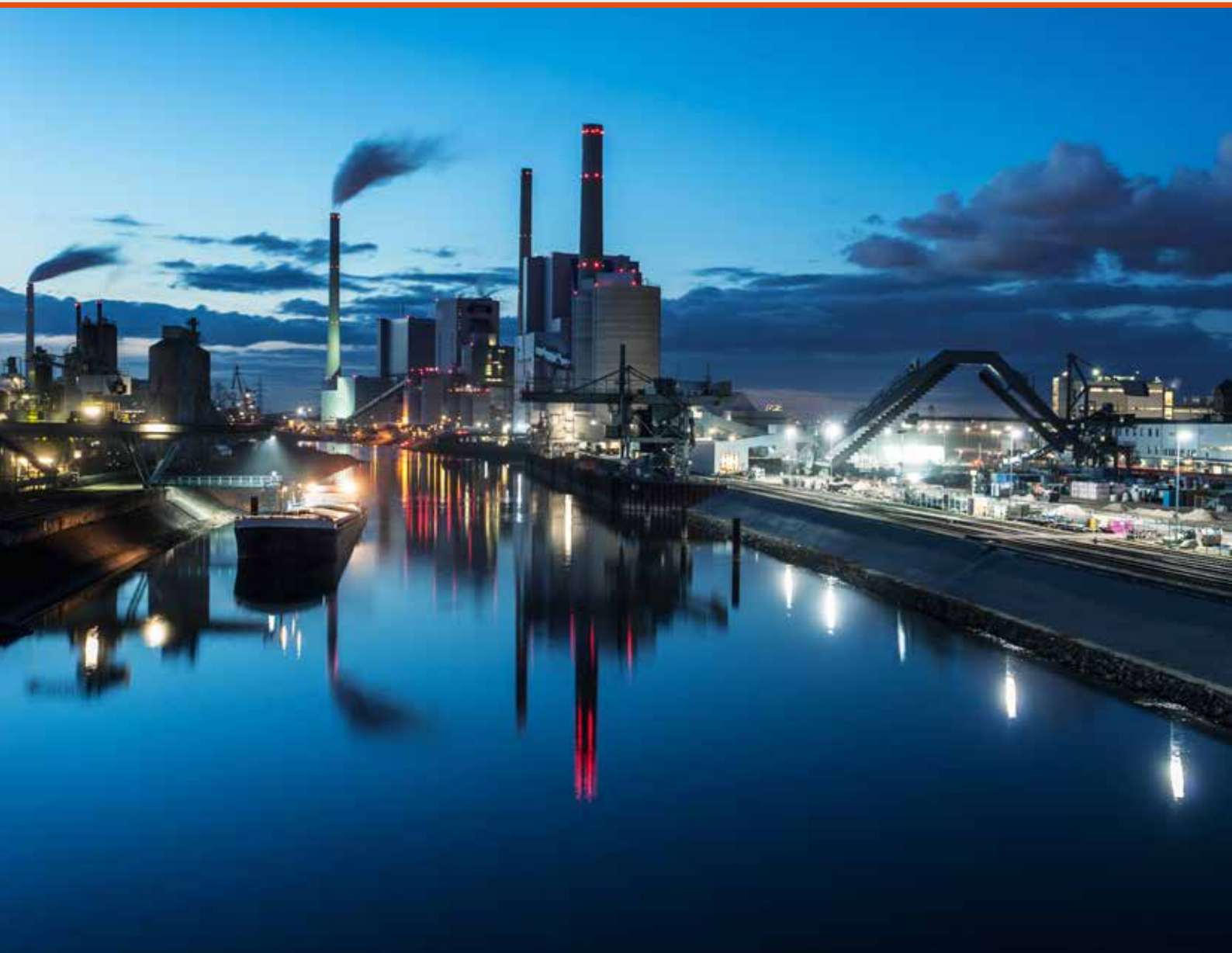
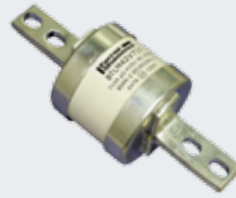


Shah & Shah Enterprise

www.shahent.co.in

IEC FUSES & FUSEGEAR

BS88 LV
FUSE LINKS
& FUSE HOLDERS



Powerful presence of the world's leader on the circuit protection market, Mersen Electrical Protection Activity, offer innovative solutions to enhance the safety of low voltage installations and equipments.

Above and beyond the supply of products, the company also provides added value in the form of technical support for OEMs, electrical contractors, panel builders, plant maintenance department and utilities.

As a global player, Mersen has established production facilities on every continent to optimise the offering (France, Tunisia, United States, Canada, Mexico, India, Japan and P.R. of China). All these locations are united around a global quality, safety and environment policy.

The world-class organisation of Mersen offers tried, proven and approved solutions ensuring the integrity of the equipment, their devices protected and the safety of people working around them. To guard customer's electrical equipment and installations over the long term, Mersen markets the widest range of safe, reliable electrical and thermal protection solutions.

Mersen solutions are sold all over the world at over 4500 points of sale through professional distributors of electrical components and equipment.

Mersen provides you with high quality products in compliance with ISO 9001 standard. All the circuit protection solutions shown in this catalogue are, ASTA 20 certified and comply with the RoHS European Directive.

Note that any items marked with * are not ASTA 20 certified.



INDEX

| | |
|---|--------------------|
| Range Mapping | 4 |
| Comparison Chart | 5 |
| Offset Bolted Tag Fuse Links (A-type) | |
| Reference Data (415V) | 6 |
| Dimensions & Electrical characteristics (415V) | 7 |
| Reference Data (550V) | 12 |
| Dimensions & Electrical characteristics (550V) | 13 & 14 |
| Reference Data (690V) | 16 |
| Dimensions & Electrical characteristics (690V) | 17 |
| Offset Blade Fuse Links (F-type) | |
| Reference Data (550V) | 12 |
| Dimensions & Electrical characteristics (550V) | 13 & 14 |
| Central Bolted Tag Fuse Links (B & C-type) | |
| Reference Data (415V) | 8 |
| Dimensions & Electrical characteristics (415V) | 9 |
| Reference Data (690V) | 18 |
| Dimensions & Electrical characteristics (690V) | 19 |
| Time Vs Current Characteristics (415V) - A, B & C type | 10 |
| Time Vs Current Characteristics (415/550V) - A & F type | 15 |
| Time Vs Current Characteristics (690V) - A, B & C type | 20 |
| Cut-Off Current Characteristics for A, B & C types (415V) | 11 |
| Cut-Off Current Characteristics for A, B, C & F Types (550/690V) | 21 |
| I² t characteristics & Power Dissipation chart | 22 |
| Application Information | 23 |
| BS88 Fuse Holders | 24 |
| Mersen Fuse Holder Chart | 25 |
| Approvals | 30 |
| Notes | 31 |

RANGE MAPPING

| BS TYPE | DESIGNATION | AC / DC | CATEGORY | CURRENT RATINGS | PAGE NO. | |
|---------|-------------|---------|----------------------------|---|----------|----|
| F1 | BNS | 550/250 | gG | 2, 4, 6, 10, 16, 20, 25, 32 | 12 | |
| | | | gM | 10M16, 16M20, 20M25, 20M32, 25M32 | | |
| | | 415 | gM | 20M36, 32M36, 32M40, 32M50, 32M63 | | |
| F2 | BES | 550 | gG | 2, 4, 6, 10, 16, 20, 25, 32 | 6 | |
| | | 415 | gG | 36, 40, 50, 63 | | |
| A1 | BEIT | 415/250 | gG | 36, 40, 50, 63 | 12 | |
| | BNIT | 550/250 | gG | 2, 4, 6, 10, 16, 20, 25, 32 | | |
| | | | gM | 10M16, 16M20, 20M25, 20M32, 25M32 | | |
| A2 | BTIA | 550/250 | gG | 2, 4, 6, 10, 16, 20, 25, 32 | 12 | |
| | | | gM | 10M16, 16M20, 20M25, 20M32, 25M32 | | |
| | | 690/460 | gG | 2, 4, 6, 10, 16, 20, 25, 32, 36, 40, 50, 63 | 16 | |
| | | | gM | 10M16, 16M20, 20M25, 20M32, 25M32, 32M36, 32M40, 32M50, 32M63 | | |
| A3 | BTSS | 415/240 | gG | 36, 40, 50, 63 | 6 | |
| | BTSDS | 415/240 | gG | 80, 100, 125 | | |
| | | | gM | 63M80, 63M100, 80M100, 100M125 | | |
| | BTIS | 415/240 | gG | 36, 40, 50, 63, 80, 100, 125, 160 | | 16 |
| | | | gM | 100M125, 100M160 | | |
| | | 690/460 | gG | 36, 40, 50, 63 | | |
| gM | | | 32M36, 32M40, 32M50, 32M63 | | | |
| A4 | BTSD | 415/240 | gG | 80, 100, 125 | 6 | |
| | | | gM | 63M80, 63M100, 80M100, 100M125 | | |
| | BTCP | 415/240 | gG | 125, 160 | 16 | |
| | | | gM | 100M125, 100M160, 100M200 | | |
| | | 690/460 | gG | 36, 40, 50, 63, 80, 100 | | |
| | | | gM | 32M36, 32M40, 32M50, 32M63, 63M80, 63M100, 80M100 | | |
| | BTFP | 415/240 | gG | 125, 160, 200 | 6 | |
| | | | gM | 200M250, 200M315 | | |
| B1 | BTBC | 415/240 | gG | 32, 40, 50, 63 | 8 | |
| | BTSDC | 415/240 | gG | 80, 100, 125 | | |
| | | | gM | 63M80, 63M100, 80M100, 100M125 | | |
| | BTC | 415/240 | gG | 125, 160 | | 18 |
| | | | gM | 100M125, 100M160, 100M200 | | |
| | | 690/460 | gG | 80, 100 | | |
| gM | | | 63M80, 63M100, 80M100 | | | |
| B2 | BTF | 415/240 | gG | 125, 160, 200 | 8 | |
| | | | gM | 200M250, 200M315 | | |
| | | 690/460 | gG | 125, 160, 200 | 18 | |
| | | | gM | 125M160, 125M200 | | |
| B3 | BTKF | 415/240 | gG | 250, 315 | 8 | |
| | | | gM | 315M400 | | |
| | BTKF | 690/460 | gG | 250, 315 | 18 | |
| B3x | BTKM | 415/240 | gG | 250, 315 | 8 | |
| B4 | BTMF | 415/240 | gG | 355, 400 | 8 | |
| | | 690/460 | gG | 250, 315, 355, 400 | | |
| | | | gM | 315M400 | | |
| C1 | BTM | 415/240 | gG | 355, 400 | 8 | |
| | | 690/460 | gG | 250, 315, 355, 400 | | |
| C2 | BTM | 415/240 | gG | 450, 500, 560, 630 | 8 | |
| | | 690 | gG | 450, 500, 560, 630 | | |
| C3 | BTLM | 415/240 | gG | 670, 710, 750, 800 | 8 | |
| | | 690 | gG | 670, 710, 750, 800 | | |

COMPARISON CHART FOR BS88LV FUSE LINKS

| COMPETITORS | | MERSEN | BS TYPE REF. | RATINGS | PAGES |
|-------------|--------------|-------------|--------------|----------|-------|
| NS-415V | NSD-550V | BNS55Vxx | F1 | 2-32A | 12 |
| ES-415V | - | BES42Vxx | F2 | 10-36A | 12 |
| - | ESD-550V | BES55Vxx | F2 | 40-63A | 12 |
| EIT-415V | - | BEIT42Vxx | A1 | 36-63A | 6 |
| NIT-415V | NITD-550V | BNIT55Vxx | A1 | 2-32A | 12 |
| TSA-415V | AA0-550V | BTIA55Vxx | A2C | 2-32A | 12 |
| TIA-660V | H07-690V | BTIA69Vxx | A2 | 2-32A | 16 |
| TIS-660V | BA0-550V | BTIS69Vxx | A3 | 36-63A | 16 |
| TSS-415V | - | BTSS42Vxx | A3C | 36-63A | 6 |
| TSDS-415V | - | BTSDS42Vxx | A3 | 80-125A | 6 |
| TSD-415V | - | BTSD42Vxx | A4C | 80-125A | 6 |
| TCP-660V | L14-690V | BTCP69Vxxx | A4/A4C | 36-100A | 16 |
| TSDC-415V | CD-415V | BTSDC42Vxxx | B1C | 80-125A | 8 |
| TC-660V | L09-690V | BTC69Vxxx | B1 | 80-100A | 18 |
| TSFP-415V | DE0-415V | BTFP42Vxxx | A4xC | 125-200A | 6 |
| TSF-415V | DD-415V | BTF42Vxxx | B2/B2C | 125-200A | 8 |
| TFP-660V | M09-690V | BTF69Vxxx | B2 | 125-200A | 18 |
| TF-660V | M09-690V | BTF69Vxxx | B2 | 125-200A | 18 |
| TSK-415V | N09/P09-690V | BTMF69Vxxx | B4 | 250-400A | 18 |
| TKF-660V | N09/P09-690V | BTMF69Vxxx | B4 | 250-400A | 18 |
| TSMS-415V | P11-690V | BTM69Vxxx | C1 | 250-400A | 18 |
| TSM-415V | P11-690V | BTM69Vxxx | C1 | 250-400A | 18 |
| TM-660V | P11-690V | BTM69Vxxx | C1 | 250-400A | 18 |
| TSTS-415V | FF-550V | BTTM42Vxxx | C2 | 450-630A | 18 |
| TST-415V | FF-550V | BTTM42Vxxx | C2 | 450-630A | 18 |
| TTM-660V | FF-550V | BTTM69Vxxx | C2 | 450-630A | 18 |
| TSLS-415V | GF-550V | BTLM42Vxxx | C3 | 670-800A | 18 |
| TSL-415V | GF-550V | BTLM42Vxxx | C3 | 670-800A | 18 |
| TLM-660V | GF-550V | BTLM69Vxxx | C3 | 670-800A | 18 |

OFFSET BOLTED TAG FUSE LINKS (A-TYPE)

Reference Data

Rated Voltage: 415 V ac Breaking Capacity: 80 kA
240/250 V dc Breaking Capacity: 40 kA

| VOLTAGE (V) BS TYPE REF | RATING (A) | REFERENCE NUMBER | CATALOGUE NUMBER | BS TYPE REF | STD. PACK |
|----------------------------|---------------|---------------------|---------------------|----------------|--------------|
| 415 V AC 250 V DC | 36 | A1019176J | BEIT42V36 | A1 | 10 |
| | 40 | B1019177J | BEIT42V40 | A1 | 10 |
| | 50 | C1019178J | BEIT42V50 | A1 | 10 |
| | 63 | D1019179J | BEIT42V63 | A1 | 10 |
| 415 V AC 240 V DC | 36 | R1019191J | BTSS42V36 | A3C | 10 |
| | 40 | S1019192J | BTSS42V40 | A3C | 10 |
| | 50 | T1019193J | BTSS42V50 | A3C | 10 |
| | 63 | V1019194J | BTSS42V63 | A3C | 10 |
| 415 V AC 240 V DC | 80 | E1019180J | BTS42V80 | A3 | 10 |
| | 100 | F1019181J | BTS42V100 | A3 | 10 |
| | 125 | G1019182J | BTS42V125 | A3 | 10 |
| | 63M80 | H1019183J | BTS42V63M80 | A3 | 10 |
| | 63M100 | J1019184J | BTS42V63M100 | A3 | 10 |
| | 80M100 | W1054362J | BTS42V80M100* | A3 | 10 |
| 415 V AC 240 V DC | 100M125 | K1019185J | BTS42V100M125 | A3 | 10 |
| | 36 | M1045269J | BTIS42V36 | A3 | 10 |
| | 40 | N1045270J | BTIS42V40 | A3 | 10 |
| | 50 | P1045271J | BTIS42V50 | A3 | 10 |
| | 63 | Q1045272J | BTIS42V63 | A3 | 10 |
| | 80 | R1045273J | BTIS42V80 | A3 | 10 |
| 415 V AC 240 V DC | 100 | S1045274J | BTIS42V100 | A3 | 10 |
| | 125 | L1019186J | BTIS42V125 | A3 | 10 |
| | 160 | M1019187J | BTIS42V160 | A3 | 10 |
| | 100M125 | N1019188J | BTIS42V100M125 | A3 | 10 |
| 415 V AC 240 V DC | 100M160 | Q1019190J | BTIS42V100M160 | A3 | 10 |
| | 80 | Y1019197J | BTS42V80 | A4C | 10 |
| | 100 | Z1019198J | BTS42V100 | A4C | 10 |
| | 125 | A1019199J | BTS42V125 | A4C | 10 |
| 415 V AC 240 V DC | 63M80 | B1019200J | BTS42V63M80 | A4C | 10 |
| | 63M100 | C1019201J | BTS42V63M100 | A4C | 10 |
| | 80M100 | X1054363J | BTS42V80M100* | A4C | 10 |
| | 100M125 | D1019202J | BTS42V100M125 | A4C | 10 |
| | 36 | T1045275J | BTCP42V36 | A4C | 10 |
| | 40 | Z1045280J | BTCP42V40 | A4C | 10 |
| 415 V AC 240 V DC | 50 | S1045297J | BTCP42V50 | A4C | 10 |
| | 63 | T1045298J | BTCP42V63 | A4C | 10 |
| | 80 | V1045299J | BTCP42V80 | A4C | 10 |
| | 100 | X1045301J | BTCP42V100 | A4C | 10 |
| 415 V AC 240 V DC | 125 | W1019195J | BTCP42V125 | A4 | 10 |
| | 160 | X1019196J | BTCP42V160 | A4 | 10 |
| | 100M125 | A226297J | BTCP42V100M125 | A4C | 10 |
| | 100M160 | B226298J | BTCP42V100M160 | A4C | 10 |
| | 100M200 | C226299E | BTCP42V100M200 | A4C | 5 |
| 415 V AC 240 V DC | 125 | D226300E | BTFP42V125 | A4XC | 5 |
| | 160 | E226301E | BTFP42V160 | A4XC | 5 |
| | 200 | F226302E | BTFP42V200 | A4XC | 5 |
| | 200M250 | G226303E | BTFP42V200M250 | A4X | 5 |
| | 200M315 | H226304E | BTFP42V200M315 | A4X | 5 |



Note:

1. A3C, A4C represents compact dimensions with respect to BS88/ IEC60269 standards specified dimensions

2. A4X represents extended rating with respect to BS88 / IEC 60269 specified ratings

2. Note that items marked with an * are not ASTA certified

Dimensions

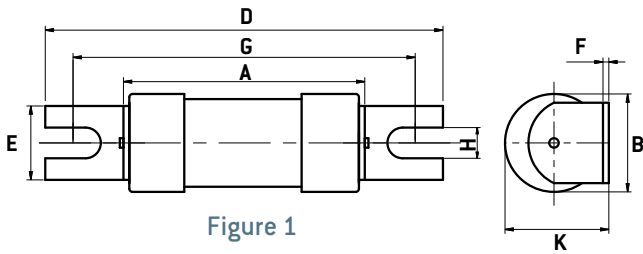


Figure 1

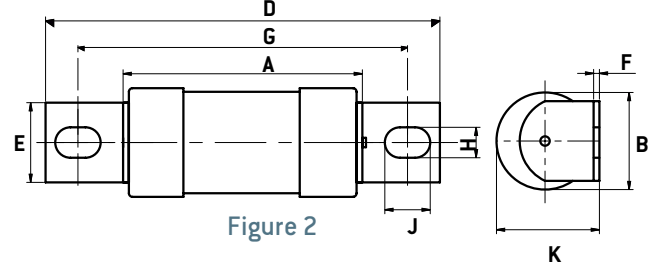


Figure 2

| BS REF | FUSE TYPE (FIG. 1) | CURRENT RATING (A) | DIMENSIONS (MM) | | | | | | | |
|--------|--------------------|----------------------------|-----------------|-------|-------|-------|-------|-------|-------|-------|
| | | | A MAX | B MAX | D MAX | E MAX | F NOM | G NOM | H NOM | K MAX |
| A1 | BEIT | 36, 40, 50, 63 | 39.5 | 17.1 | 65.5 | 11 | 1.2 | 55 | 5.5 | 18.2 |
| A3C | BTSS/BTIS | 36, 40, 50, 63 | 38.8 | 17.1 | 84 | 9.2 | 1.2 | 73 | 5.2 | 18.5 |
| A3 | BTIS | 125, 160, 100M125, 100M160 | 57 | 26.9 | 88.5 | 13 | 1.2 | 73 | 5.5 | 28 |

| BS REF | FUSE TYPE (FIG. 2) | CURRENT RATING (A) | DIMENSIONS (MM) | | | | | | | | |
|-----------|--------------------|--|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | | A MAX | B MAX | D MAX | E MAX | F NOM | G NOM | H NOM | J NOM | K MAX |
| A3 | BTSDES/BTIS | 80, 100, 125, 63M80, 63M100, 80M100, 100M125 | 54.5 | 21 | 87 | 12.7 | 1.2 | 73 | 5.5 | 8 | 22.5 |
| A4C | BTSD/BTCP | 36, 40, 50, 63, 80, 100, 125, 63M80, 63M100, 80M100, 100M125 | 58.5 | 21 | 110 | 14.3 | 3.2 | 94 | 8.7 | 11 | 24.5 |
| A4/ A4C | BTCP | 125, 160, 100M125, 100M160 | 59.5 | 26.9 | 111 | 19.5 | 2.4 | 94 | 8.7 | 11 | 28.5 |
| A4XC /A4C | BTFP/BTCP | 125, 160, 200, 100M200 | 47 | 31 | 110 | 19 | 3.2 | 94 | 9 | 10 | 32 |
| A4X | BTFP | 200M250, 200M315 | 76 | 41.9 | 111 | 19.5 | 3.2 | 94 | 8.7 | 11 | 44 |

Electrical characteristics

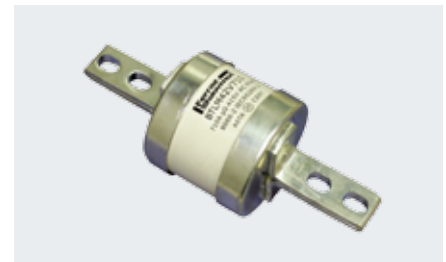
| FUSE TYPE | CURVE TYPE | CURRENT RATING (A) | I ² T (AMPERE ² SECONDS) | | WATT LOSS |
|-----------------------|------------|--------------------|--|--------|-----------|
| | | | PRE ARCING | TOTAL | |
| BEIT/BTSS/BTCP | gG | 36 | 1000 | 4000 | 2.8 |
| BEIT/BTSS/BTIS/BTCP | gG | 40 | 1300 | 4200 | 3.0 |
| BEIT/BTSS/BTIS/BTCP | gG | 50 | 2600 | 8750 | 3.6 |
| BEIT/BTSS/BTIS/BTCP | gG | 63 | 4000 | 13900 | 4.7 |
| BTSDES/BTSD/BTIS/BTCP | gG | 80 | 8500 | 38250 | 6.5 |
| BTSDES/BTSD | gM | 63M80 | 8500 | 38250 | 5.1 |
| BTSDES/BTSD/BTIS/BTCP | gG | 100 | 14000 | 65000 | 7.5 |
| BTSDES/BTSD | gM | 63M100 | 14000 | 65000 | 4.7 |
| BTSDES/BTSD | gM | 80M100 | 14000 | 65000 | 6 |
| BTSDES/BTSD | gG | 125 | 16000 | 70000 | 11.5 |
| BTIS/BTCP | gG | 125 | 28000 | 78400 | 11.3 |
| BTFP | gG | 125 | 17000 | 70000 | 9.2 |
| BTSDES/BTSD | gM | 100M125 | 16000 | 70000 | 9.2 |
| BTIS/BTCP | gM | 100M125 | 28000 | 78400 | 9 |
| BTIS/BTCP | gG | 160 | 60000 | 168000 | 14.0 |
| BTFP | gG | 160 | 57000 | 150000 | 10.7 |
| BTIS/BTCP | gM | 100M160 | 60000 | 168000 | 8.8 |
| BTFP | gG | 200 | 105000 | 293000 | 16.2 |
| BTCP | gM | 100M200 | 105000 | 293000 | 8.1 |
| BTFP | gM | 200M250 | 190000 | 532000 | 19.2 |
| BTFP | gM | 200M315 | 270000 | 756000 | 19.7 |

CENTRAL BOLTED TAG FUSE LINKS (B & C-TYPE)

Reference Data

Rated Voltage: 415 V ac Breaking Capacity: 80 kA
240 V dc Breaking Capacity: 40 kA

| VOLTAGE (V) | RATING (A) | REFERENCE NUMBER | CATALOGUE NUMBER | BS TYPE REF | STD. PACK |
|----------------------|------------|------------------|------------------|-------------|-----------|
| 415 V AC 240 V DC | 32 | J226305J | BTBC42V32 | B1C | 10 |
| | 40 | K226306J | BTBC42V40 | B1C | 10 |
| | 50 | L226307J | BTBC42V50 | B1C | 10 |
| | 63 | M226308J | BTBC42V63 | B1C | 10 |
| 415 V AC 240 V DC | 80 | G1019205J | BTSDC42V80 | B1C | 10 |
| | 100 | H1019206J | BTSDC42V100 | B1C | 10 |
| | 125 | J1019207J | BTSDC42V125 | B1C | 10 |
| | 63M80 | K1019208J | BTSDC42V63M80 | B1C | 10 |
| | 63M100 | L1019209J | BTSDC42V63M100 | B1C | 10 |
| | 80M100 | Y1054364J | BTSDC42V80M100* | B1C | 10 |
| | 100M125 | M1019210J | BTSDC42V100M125 | B1C | 10 |
| 415 V AC 240 V DC | 80 | Y1045302J | BTC42V80 | B1C | 10 |
| | 100 | Z1045303J | BTC42V100 | B1C | 10 |
| 415 V AC 240 V DC | 125 | E1019203J | BTC42V125 | B1 | 10 |
| | 160 | F1019204J | BTC42V160 | B1 | 10 |
| | 100M125 | Q226311J | BTC42V100M125 | B1C | 10 |
| | 100M160 | R226312J | BTC42V100M160 | B1C | 10 |
| | 100M200 | S226313E | BTC42V100M200 | B1C | 5 |
| 415 V AC 240 V DC | 125 | T226314E | BTF42V125 | B2C | 5 |
| | 160 | V226315E | BTF42V160 | B2C | 5 |
| | 200 | W226316E | BTF42V200 | B2C | 5 |
| | 200M250 | X226317A | BTF42V200M250 | B2 | 1 |
| | 200M315 | Y226318A | BTF42V200M315 | B2 | 1 |
| 415 V AC 240 V DC | 250 | Z226319A | BTKF42V250 | B3 | 1 |
| | 315 | A226320A | BTKF42V315 | B3 | 1 |
| | 315M400 | B226321A | BTKF42V315M400 | B3 | 1 |
| 415 V AC 240 V DC | 250 | C226322A | BTKM42V250 | B3X | 1 |
| | 315 | D226323A | BTKM42V315 | B3X | 1 |
| 415 V AC 240 V DC | 355 | E226324A | BTMF42V355 | B4 | 1 |
| | 400 | F226325A | BTMF42V400 | B4 | 1 |
| 415 V AC 240 V DC | 355 | G226326A | BTM42V355 | C1 | 1 |
| | 400 | H226327A | BTM42V400 | C1 | 1 |
| 415 V AC 240 V DC | 450 | J226328A | BTTM42V450 | C2 | 1 |
| | 500 | K226329A | BTTM42V500 | C2 | 1 |
| | 560 | L226330A | BTTM42V560 | C2 | 1 |
| | 630 | M226331A | BTTM42V630 | C2 | 1 |
| 415 V AC 240 V DC | 670 | N226332A | BTLM42V670 | C3 | 1 |
| | 710 | P226333A | BTLM42V710 | C3 | 1 |
| | 750 | Q226334A | BTLM42V750 | C3 | 1 |
| | 800 | R226335A | BTLM42V800 | C3 | 1 |



Note:

1. B1C, B2C represents compact dimensions with respect to BS88/ IEC60269 standards specified dimensions

2. B3X represents extended rating with respect to BS88 / IEC 60269 specified ratings

2. Note that items marked with an * are not ASTA Certified

Dimensions

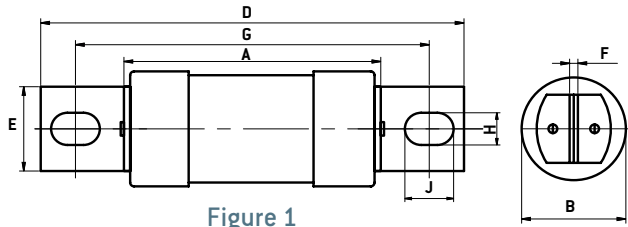


Figure 1

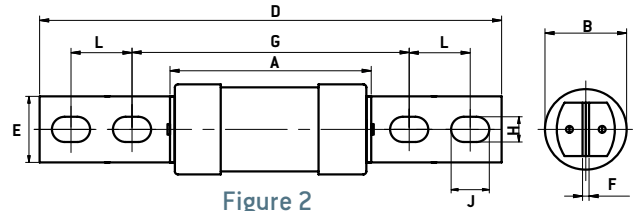


Figure 2

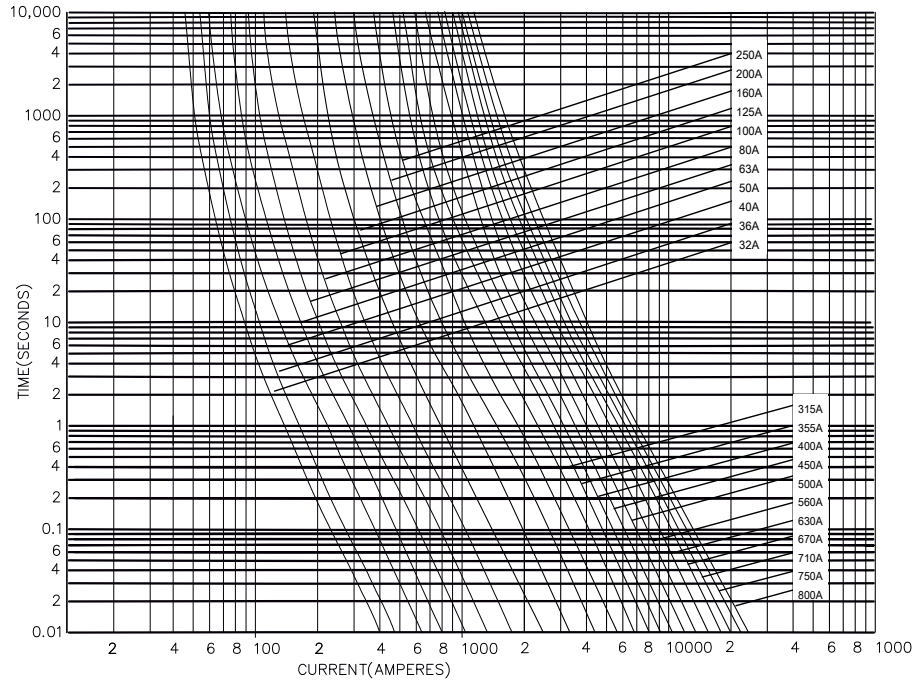
| BS REF | FUSE TYPE | CURRENT RATING (A) | DIMENSIONS (MM) | | | | | | | | | |
|---------------|-----------|--|-----------------|-------|-------|-------|-------|-------|-------|-------|------|--|
| | | | A MAX | B MAX | D MAX | E MAX | F NOM | G NOM | H NOM | J NOM | LNOM | |
| FIG. 1 | | | | | | | | | | | | |
| B1C | BTBC | 32, 40, 50, 63 | 57 | 26.9 | 137 | 19.5 | 3.2 | 111 | 8.7 | 14 | - | |
| B1C | BTSDC/BTC | 80, 100, 125, 63M80, 63M100, 80M100, 100M125 | 58.5 | 21 | 127 | 14.3 | 3.2 | 111 | 8.7 | 11.1 | - | |
| B1/B1C | BTC | 125, 160, 100M125, 100M160 | 57 | 26.9 | 137 | 19.5 | 3.2 | 111 | 8.7 | 14 | - | |
| B1C/B2C | BTC/BTF | 125, 160, 200, 100M200 | 47 | 31 | 136 | 19 | 3.2 | 111 | 9 | 12.5 | - | |
| B2/B3 | BTF/ BTKF | 250, 315, 200M250, 200M315 | 73 | 41.9 | 138 | 19.5 | 3.2 | 111 | 8.7 | 14 | - | |
| B3X | BTKM | 250, 315 | 73 | 41.9 | 159 | 26 | 3.2 | 133 | 10.3 | 14 | - | |
| B3 | BTKF | 250, 315, 315M400 | 75 | 59.1 | 138 | 26 | 4.8 | 111 | 8.7 | 14 | - | |
| B4 | BTMF | 355, 400 | 75 | 59.1 | 138 | 26 | 4.8 | 111 | 8.1 | 14 | - | |
| FIG. 2 | | | | | | | | | | | | |
| C1 | BTM | 355, 400 | 75 | 59.1 | 212 | 26 | 4.8 | 133 | 10.3 | 16 | 25.4 | |
| C2 | BTTM | 450, 500, 560, 630 | 83 | 74.4 | 212 | 26 | 6.3 | 133 | 10.3 | 16 | 25.4 | |
| C3 | BTLM | 670, 710, 750, 800 | 86 | 82.4 | 212 | 26 | 9.5 | 133 | 10.3 | 16 | 25.4 | |

Electrical characteristics

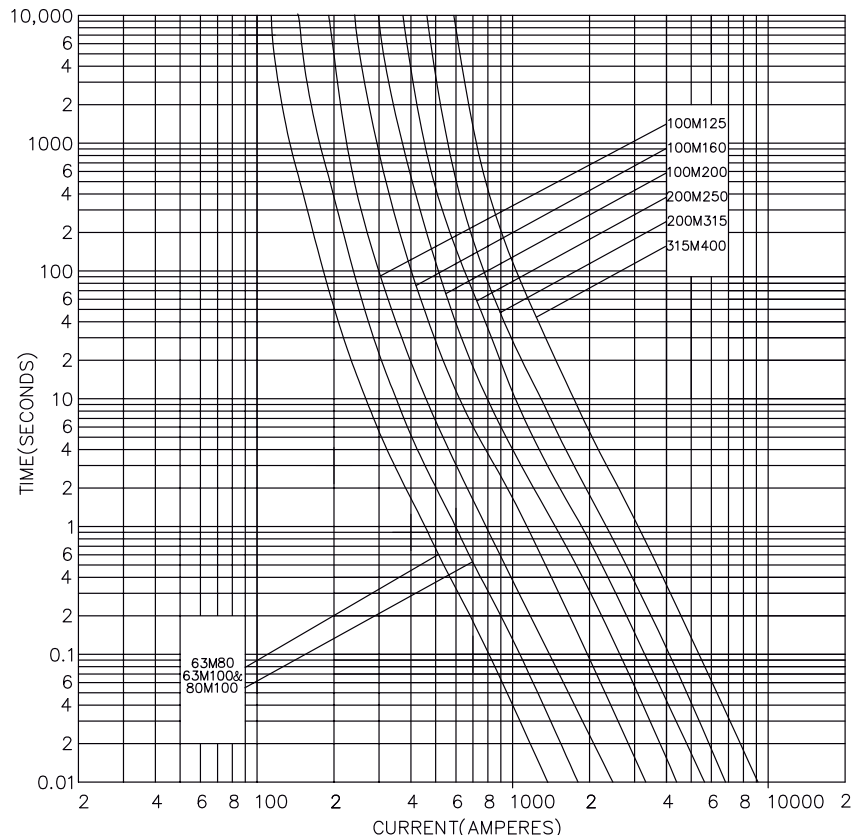
| FUSE TYPE | CURVE TYPE | CURRENT RATING (A) | I ² T (AMPERE ² SECONDS) | | WATT LOSS |
|------------|------------|--------------------|--|----------|-----------|
| | | | PRE ARCING | TOTAL | |
| BTBC | gG | 32 | 700 | 3000 | 3.6 |
| BTBC | gG | 40 | 1300 | 5850 | 4.0 |
| BTBC | gG | 50 | 2600 | 11700 | 4.8 |
| BTBC | gG | 63 | 4000 | 17500 | 5.9 |
| BTSDC/BTIS | gG | 80 | 8500 | 38250 | 6.5 |
| BTSDC | gM | 63M80 | 8500 | 38250 | 5.1 |
| BTSDC/BTIS | gG | 100 | 14000 | 65000 | 7.5 |
| BTSDC | gM | 63M100 | 14000 | 65000 | 4.7 |
| BTSDC | gM | 80M100 | 14000 | 65000 | 6 |
| BTSDC | gG | 125 | 16000 | 70000 | 11.5 |
| BTC | gG | 125 | 28000 | 78400 | 11.3 |
| BTF | gG | 125 | 17000 | 70000 | 9.2 |
| BTSDC | gM | 100M125 | 16000 | 70000 | 9.2 |
| BTC | gM | 100M125 | 28000 | 78400 | 9 |
| BTC | gG | 160 | 60000 | 168000 | 14.0 |
| BTF | gG | 160 | 57000 | 150000 | 10.7 |
| BTC | gM | 100M160 | 60000 | 168000 | 8.8 |
| BTF | gG | 200 | 105000 | 293000 | 16.2 |
| BTC | gM | 100M200 | 105000 | 293000 | 8.1 |
| BTKF/BTKM | gG | 250 | 190000 | 532000 | 24 |
| BTF | gM | 200M250 | 190000 | 532000 | 19.2 |
| BTKF/BTKM | gG | 315 | 270000 | 756000 | 31 |
| BTF | gM | 200M315 | 270000 | 756000 | 19.7 |
| BTKF | gM | 315M400 | 505000 | 1414000 | 30 |
| BTMF/BTM | gG | 355 | 395000 | 1106000 | 32 |
| BTMF/BTM | gG | 400 | 505000 | 1414000 | 38 |
| BTTM | gG | 450 | 650000 | 1820000 | 42 |
| BTTM | gG | 500 | 850000 | 2380000 | 48 |
| BTTM | gG | 560 | 1200000 | 3360000 | 50 |
| BTTM | gG | 630 | 1546000 | 4437000 | 54 |
| BTLM | gG | 670 | 1950000 | 5460000 | 60 |
| BTLM | gG | 710 | 2400000 | 6720000 | 62 |
| BTLM | gG | 750 | 3000000 | 8400000 | 65 |
| BTLM | gG | 800 | 3769000 | 10900000 | 68 |

TIME VS. CURRENT CHARACTERISTICS

gG Curves - 32 to 800A - 415 V ac

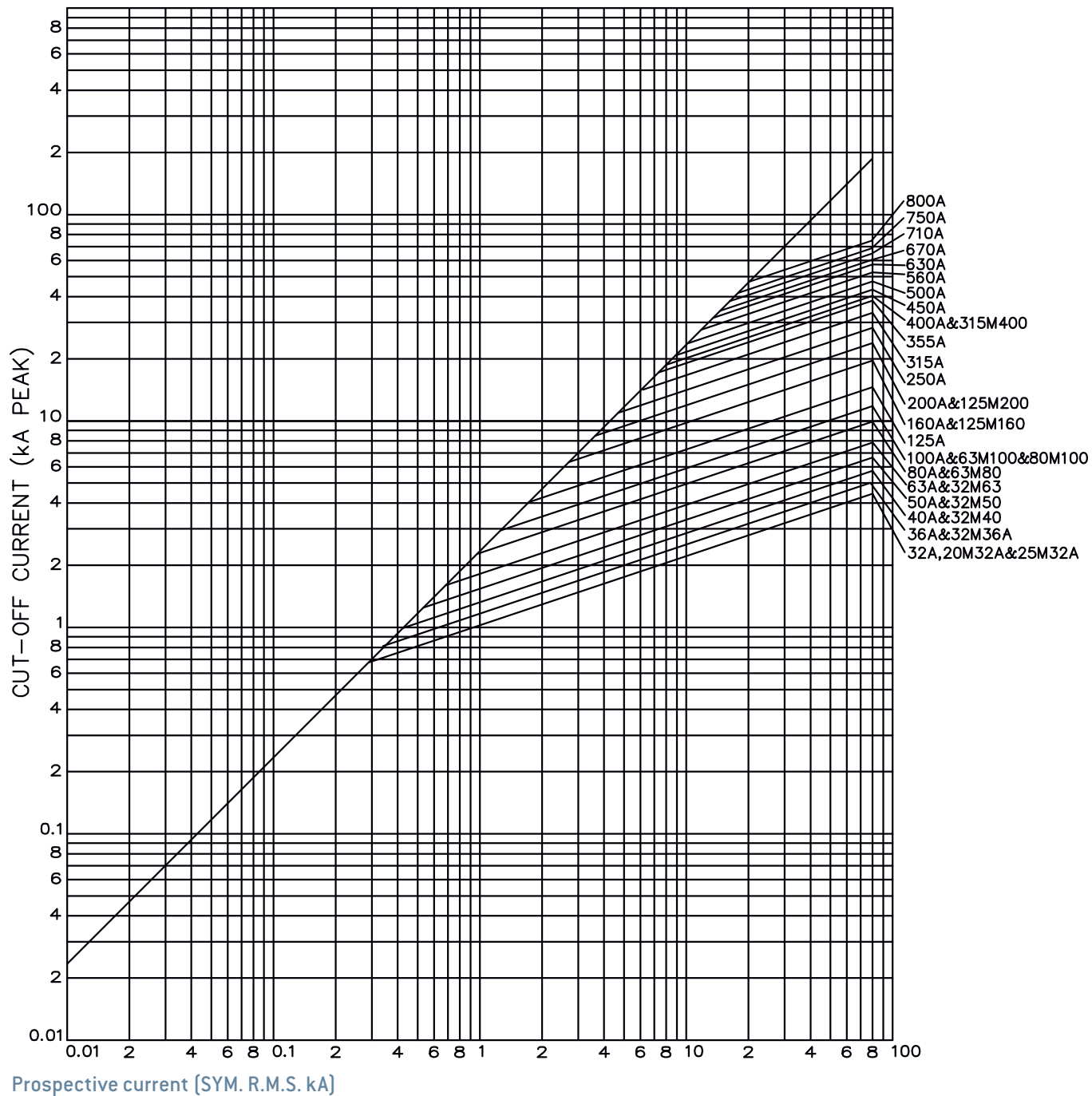


gM Curves - 63M80 to 315M400A - 415V ac



CUT-OFF CURRENT CHARACTERISTICS

A, B & C Type - 415 V ac



OFFSET BLADE/OFFSET TAG FUSE LINKS (F&A-TYPE)

Reference Data

Rated Voltage: 415/550 V ac Breaking Capacity: 80 kA
250 V dc Breaking Capacity: 40 kA

| VOLTAGE (V) | RATING (A) | REFERENCE NO. | CATALOGUE NO. | BS TYPE REF | STD. PACK | |
|----------------------|----------------------|---------------|---------------|--------------|-----------|----|
| 550 V AC 250 V DC | 2 | C1006643J | BNS55V2 | F1 | 10 | |
| | 4 | D1006644J | BNS55V4 | F1 | 10 | |
| | 6 | E1006645J | BNS55V6 | F1 | 10 | |
| | 10 | N1019211J | BNS55V10 | F1 | 10 | |
| | 16 | P1019212J | BNS55V16 | F1 | 10 | |
| | 20 | Q1019213J | BNS55V20 | F1 | 10 | |
| | 25 | R1019214J | BNS55V25 | F1 | 10 | |
| | 32 | S1019215J | BNS55V32 | F1 | 10 | |
| | 10M16 | T1019216J | BS55V10M16 | F1 | 10 | |
| | 16M20 | V1019217J | BNS55V16M20 | F1 | 10 | |
| | 20M25 | W1019218J | BNS55V20M25 | F1 | 10 | |
| | 20M32 | X1019219J | BNS55V20M32 | F1 | 10 | |
| 25M32 | Z1019221J | BNS55V25M32 | F1 | 10 | | |
| 415 V AC | 20M36 | D1036981J | BNS42V20M36* | F1 | 10 | |
| | 32M36 | E1036982J | BNS42V32M36* | F1 | 10 | |
| | 32M40 | F1036983J | BNS42V32M40* | F1 | 10 | |
| | 32M50 | G1036984J | BNS42V32M50* | F1 | 10 | |
| | 32M63 | H1036985J | BNS42V32M63* | F1 | 10 | |
| 550 V AC | 2 | Y1050799J | BES55V2* | F2 | 10 | |
| | 4 | Z1050800J | BES55V4* | F2 | 10 | |
| | 6 | A1050801J | BES55V6* | F2 | 10 | |
| | 10 | F1006646J | BES55V10 | F2 | 10 | |
| | 16 | G1006647J | BES55V16 | F2 | 10 | |
| | 20 | H1006648J | BES55V20 | F2 | 10 | |
| | 25 | J1006649J | BES55V25 | F2 | 10 | |
| | 32 | K1006650J | BES55V32 | F2 | 10 | |
| 415 V AC | 36 | L1006651J | BES55V36 | F2 | 10 | |
| | 40 | J226351J | BES42V40 | F2 | 10 | |
| | 50 | K226352J | BES42V50 | F2 | 10 | |
| 415 V AC | 63 | L226353J | BES42V63 | F2 | 10 | |
| | 550 V AC 250 V DC | 2 | E1006576J | BNIT55V2 | A1 | 10 |
| | | 4 | F1006577J | BNIT55V4 | A1 | 10 |
| 6 | | G1006578J | BNIT55V6 | A1 | 10 | |
| 10 | | B1019223J | BNIT55V10 | A1 | 10 | |
| 16 | | C1019224J | BNIT55V16 | A1 | 10 | |
| 20 | | D1019225J | BNIT55V20 | A1 | 10 | |
| 25 | | E1019226J | BNIT55V25 | A1 | 10 | |
| 32 | | F1019227J | BNIT55V32 | A1 | 10 | |
| 10M16 | | G1019228J | BNIT55V10M16 | A1 | 10 | |
| 16M20 | | H1019229J | BNIT55V16M20 | A1 | 10 | |
| 20M25 | | J1019230J | BNIT55V20M25 | A1 | 10 | |
| 20M32 | | K1019231J | BNIT55V20M32 | A1 | 10 | |
| 25M32 | R1019237J | BNIT55V25M32 | A1 | 10 | | |
| 550 V AC 250 V DC | 2 | S1019238J | BTIA55V2 | A2C | 10 | |
| | 4 | T1019239J | BTIA55V4 | A2C | 10 | |
| | 6 | V1019240J | BTIA55V6 | A2C | 10 | |
| | 10 | W1019241J | BTIA55V10 | A2C | 10 | |
| | 16 | X1019242J | BTIA55V16 | A2C | 10 | |
| | 20 | Y1019243J | BTIA55V20 | A2C | 10 | |
| | 25 | Z1019244J | BTIA55V25 | A2C | 10 | |
| | 32 | A1019245J | BTIA55V32 | A2C | 10 | |
| | 10M16 | B1019246J | BTIA55V10M16 | A2C | 10 | |
| | 16M20 | C1019247J | BTIA55V16M20 | A2C | 10 | |
| | 20M25 | D1019248J | BTIA55V20M25 | A2C | 10 | |
| | 20M32 | E1019249J | BTIA55V20M32 | A2C | 10 | |
| | 25M32 | F1019250J | BTIA55V25M32 | A2C | 10 | |
| | 415 V AC 250 V DC | 32M40 | G226280J | BTIA42V32M40 | A2 | 10 |
| | | 32M50 | H226251J | BTIA42V32M50 | A2 | 10 |
| 32M63 | | K226383J | BTIA42V32M63 | A2 | 10 | |



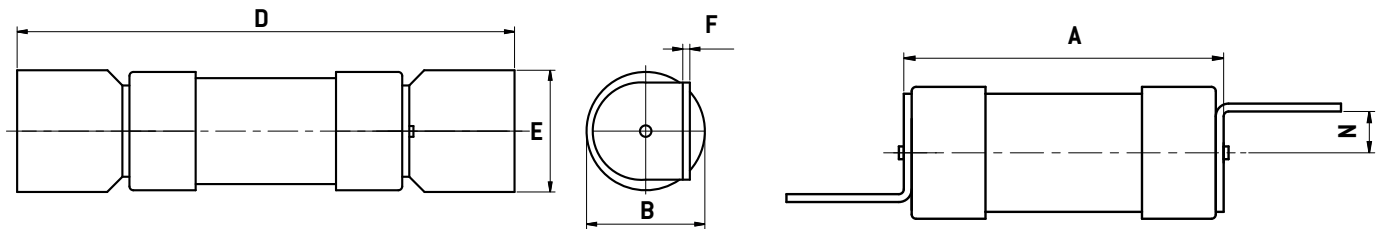
Note:

1. A2C, represents compact dimensions with respect to BS88/ IEC60269 standards specified dimensions

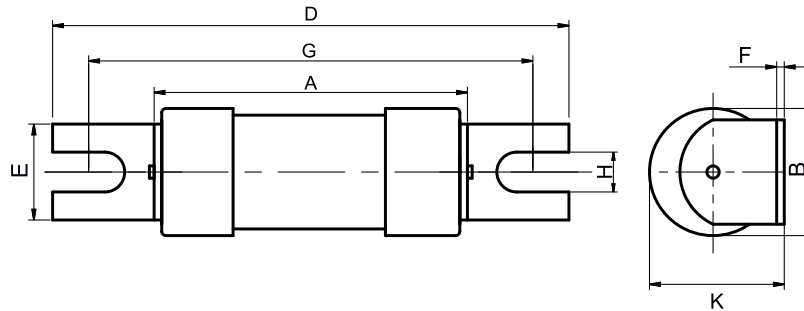
2. Note that items marked with an * are not ASTA Certified

Dimensions

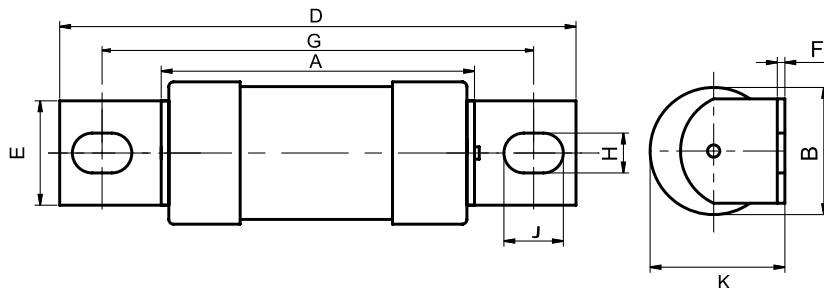
Rated Voltage: 415/550 V ac Breaking Capacity: 80 kA



| BS REF | FUSE TYPE | CURRENT RATING (A) | DIMENSIONS (MM) | | | | | |
|--------|-----------|--|-----------------|-------|-------|-------|-------|-------|
| | | | A MAX | B MAX | D MAX | E MAX | F NOM | N NOM |
| F1 | BNS | 2, 4, 6, 10, 16, 20, 25, 32, 10M16, 16M20, 20M25, 20M32, 25M32 | 35.5 | 13.5 | 61 | 12.7 | 0.8 | 3.5 |
| F1 | BNS | 20M36, 32M36, 32M40, 32M50, 32M63 | 35.5 | 17.1 | 61 | 12.7 | 0.8 | 3.5 |
| F2 | BES | 2, 4, 6, 10, 16, 20, 25, 32, 36, 40, 50, 63 | 39.5 | 17.1 | 69 | 15.2 | 1.2 | 3.5 |



| BS REF | FUSE TYPE | CURRENT RATING (A) | DIMENSIONS (MM) | | | | | | | |
|--------|-----------|--|-----------------|-------|-------|-------|-------|-------|-------|-------|
| | | | A MAX | B MAX | D MAX | E MAX | F NOM | G NOM | H NOM | K MAX |
| A1 | BNIT | 2, 4, 6, 10, 16, 20, 25, 32, 10M16, 16M20, 20M25, 20M32, 25M32 | 35.5 | 13.5 | 56 | 11.2 | 0.8 | 44.5 | 4.8 | 14.5 |



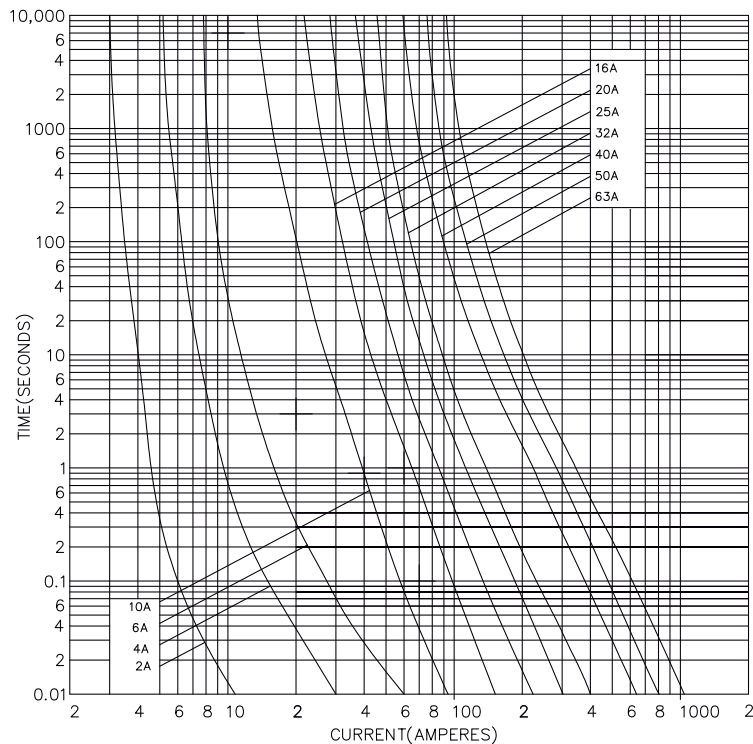
| BS REF | FUSE TYPE | CURRENT RATING (A) | DIMENSIONS (MM) | | | | | | | | |
|--------|-----------|--|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | | A MAX | B MAX | D MAX | E MAX | F NOM | G NOM | H NOM | J MAX | K NOM |
| A2C | BTIA | 2, 4, 6, 10, 16, 20, 25, 32, 10M16, 16M20, 20M25, 20M32, 25M32 | 35.5 | 13.5 | 86 | 9.2 | 0.8 | 73 | 8 | 5.5 | 14.5 |
| A2 | BTIA | 32M40, 32M50, 32M63 | 56.5 | 21.9 | 86 | 9.2 | 1.2 | 73 | 8 | 5.5 | 23.5 |

Electrical characteristics

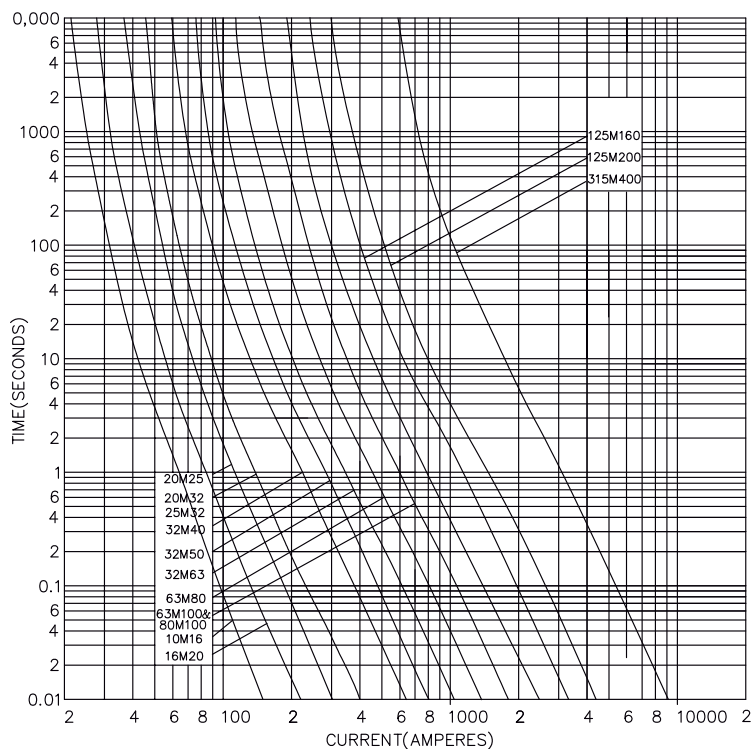
| FUSE TYPE | CURVE TYPE | CURRENT RATING (A) | I ² T (AMPERE ² SECONDS) | | WATT LOSS |
|-------------------|------------|--------------------|--|-------|-----------|
| | | | PRE ARCING | TOTAL | |
| BNS/BNIT/BTIA | gG | 2 | 1 | 5 | 0.9 |
| BNS/BNIT/BTIA | gG | 4 | 7.6 | 38 | 1.5 |
| BNS/BNIT/BTIA | gG | 6 | 28 | 40 | 1.8 |
| BNS/BNIT/BTIA/BES | gG | 10 | 70 | 350 | 1.2 |
| BNS/BNIT/BTIA/BES | gG | 16 | 120 | 550 | 1.6 |
| BNS/BNIT/BTIA | gM | 10M16 | 120 | 550 | 1 |
| BNS/BNIT/BTIA/BES | gG | 20 | 250 | 1250 | 1.7 |
| BNS/BNIT/BTIA | gM | 16M20 | 250 | 1250 | 1.36 |
| BNS/BNIT/BTIA/BES | gG | 25 | 420 | 2100 | 2 |
| BNS/BNIT/BTIA | gM | 20M25 | 420 | 2100 | 1.6 |
| BNS/BNIT/BTIA/BES | gG | 32 | 670 | 3350 | 2.9 |
| BNS/BNIT/BTIA | gM | 20M32 | 670 | 3350 | 1.8 |
| BNS/BNIT/BTIA | gM | 25M32 | 670 | 3350 | 2.3 |
| BNS/BES | gG | 36 | 700 | 4000 | 2.8 |
| BNS | gM | 20M36 | 700 | 4000 | 1.6 |
| BNS/BES | gG | 40 | 1300 | 4200 | 3 |
| BNS | gM | 32M40 | 1300 | 4200 | 2.4 |
| BNS/BES | gG | 50 | 2600 | 8750 | 3.6 |
| BNS | gM | 32M50 | 2600 | 8750 | 2.3 |
| BNS/BES | gG | 63 | 4000 | 13900 | 4.7 |
| BNS | gM | 32M63 | 4000 | 13900 | 2.4 |

TIME VS. CURRENT CHARACTERISTICS

gG Curve-2 to 63A - 415/550 V ac



gM Curve-10M16 to 32M63-415/550 V ac



CENTRAL BOLTED TAG FUSE LINKS (B & C-TYPE)

Reference Data

Rated Voltage: 415 V ac Breaking Capacity: 80 kA
240 V dc Breaking Capacity: 40 kA

| VOLTAGE (V) | RATING (A) | REFERENCE NUMBER | CATALOGUE NUMBER | BS TYPE REF | STD. PACK |
|----------------------|----------------------|------------------|------------------|-------------|-----------|
| 690 V AC 460 V DC | 2 | G1019251J | BTIA69V2 | A2 | 10 |
| | 4 | H1019252J | BTIA69V4 | A2 | 10 |
| | 6 | J1019253J | BTIA69V6 | A2 | 10 |
| | 10 | K1019254J | BTIA69V10 | A2 | 10 |
| | 16 | L1019255J | BTIA69V16 | A2 | 10 |
| | 20 | M1019256J | BTIA69V20 | A2 | 10 |
| | 25 | N1019257J | BTIA69V25 | A2 | 10 |
| | 32 | P1019258J | BTIA69V32 | A2 | 10 |
| | 10M16 | A1019751J | BTIA69V10M16 | A2 | 10 |
| | 16M20 | B1019752J | BTIA69V16M20 | A2 | 10 |
| | 20M25 | Q1019259J | BTIA69V20M25 | A2 | 10 |
| | 20M32 | R1019260J | BTIA69V20M32 | A2 | 10 |
| | 25M32 | C1019753J | BTIA69V25M32 | A2 | 10 |
| | 36 | S1019261J | BTIA69V36 | A2 | 10 |
| | 40 | T1019262J | BTIA69V40 | A2 | 10 |
| | 50 | V1019263J | BTIA69V50 | A2 | 10 |
| | 690 V AC 460 V DC | 63 | W1019264J | BTIA69V63 | A2 |
| 32M36 | | A1019268J | BTIA69V32M36 | A2 | 10 |
| 32M40 | | X1019265J | BTIA69V32M40 | A2 | 10 |
| 32M50 | | Y1019266J | BTIA69V32M50 | A2 | 10 |
| 32M63 | | Z1019267J | BTIA69V32M63 | A2 | 10 |
| 36 | | N1006584J | BTIS69V36 | A3 | 10 |
| 40 | | P1006585J | BTIS69V40 | A3 | 10 |
| 50 | | Q1006586J | BTIS69V50 | A3 | 10 |
| 690 V AC 460 V DC | 63 | R1006587J | BTIS69V63 | A3 | 10 |
| | 32M36 | C1019270J | BTIS69V32M36 | A3 | 10 |
| | 32M40 | D1006598J | BTIS69V32M40 | A3 | 10 |
| | 32M50 | E1006599J | BTIS69V32M50 | A3 | 10 |
| | 32M63 | F1006600J | BTIS69V32M63 | A3 | 10 |
| | 36 | H1019275J | BTCP69V36 | A4C | 10 |
| | 40 | M1006606J | BTCP69V40 | A4C | 10 |
| | 50 | N1006607J | BTCP69V50 | A4C | 10 |
| | 63 | J1019276J | BTCP69V63 | A4C | 10 |
| | 32M36 | K1019277J | BTCP69V32M36 | A4C | 10 |
| 690 V AC 460 V DC | 32M40 | L1019278J | BTCP69V32M40 | A4C | 10 |
| | 32M50 | M1019279J | BTCP69V32M50 | A4C | 10 |
| | 32M63 | N1019280J | BTCP69V32M63 | A4C | 10 |
| | 80 | S1006611J | BTCP69V80 | A4 | 10 |
| | 100 | T1006612J | BTCP69V100 | A4 | 10 |
| | 63M80 | V1006613J | BTCP69V63M80 | A4 | 10 |
| | 63M100 | W1006614J | BTCP69V63M100 | A4 | 10 |
| | 80M100 | Z1054365J | BTCP69V80M100* | A4 | 10 |



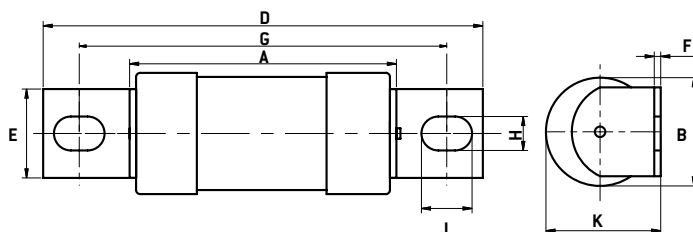
Note:

1. A4C represents compact dimensions with respect to BS88/ IEC60269 standards specified dimensions

2. Note that items marked with an * are not ASTA Certified

OFFSET BOLTED TAG FUSE LINKS (A-TYPE)

Dimensions



| BS REF | FUSE TYPE | CURRENT RATING (A) | DIMENSIONS (MM) | | | | | | | | |
|--------|-----------|--|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | | A MAX | B MAX | D MAX | E MAX | F NOM | G NOM | H NOM | J NOM | K MAX |
| A2 | BTIA | 2, 4, 6, 10, 16, 20, 25, 32, 10M16, 16M20, 20M25, 20M32, 25M32 | 56.5 | 21.9 | 86 | 9.2 | 1.2 | 73 | 5.5 | 8 | 23.5 |
| A2 | BTIA | 36, 40, 50, 63, 32M36, 32M40, 32M50, 32M63 | 54.5 | 21 | 86 | 8.7 | 1.2 | 73 | 5.5 | 8 | 22.3 |
| A3 | BTIS | 36, 40, 50, 63, 32M36, 32M40, 32M50, 32M63 | 54.5 | 21 | 87 | 12.7 | 1.2 | 73 | 5.5 | 8 | 22.5 |
| A4C | BTCP | 36, 40, 50, 63, 32M36, 32M40, 32M50, 32M63 | 57.5 | 21 | 109 | 14.3 | 3.2 | 94 | 8.7 | 11 | 22.3 |
| A4 | BTCP | 80, 100, 63M80, 63M100, 80M100 | 59.5 | 26.9 | 111 | 19.5 | 2.4 | 94 | 8.7 | 11 | 28.5 |

Electrical characteristics

| FUSE TYPE | CURVE TYPE | CURRENT RATING (A) | I ² T (AMPERE ² SECONDS) | | WATT LOSS |
|----------------|------------|--------------------|--|-------|-----------|
| | | | PRE ARCING | TOTAL | |
| BTIA | gG | 2 | 1 | 6.5 | 0.8 |
| BTIA | gG | 4 | 7.6 | 50 | 1.4 |
| BTIA | gG | 6 | 28 | 180 | 1.7 |
| BTIA | gG | 10 | 70 | 380 | 1.2 |
| BTIA | gG | 16 | 120 | 580 | 1.6 |
| BTIA | gM | 10M16 | 120 | 580 | 1 |
| BTIA | gG | 20 | 250 | 1450 | 1.7 |
| BTIA | gM | 16M20 | 250 | 1450 | 1.4 |
| BTIA | gG | 25 | 420 | 2500 | 2.0 |
| BTIA | gM | 20M25 | 420 | 2500 | 1.6 |
| BTIA | gG | 32 | 670 | 3900 | 2.9 |
| BTIA | gM | 20M32 | 670 | 3900 | 1.8 |
| BTIA | gM | 25M32 | 670 | 3900 | 2.3 |
| BTIA/BTIS/BTCP | gG | 36 | 700 | 4500 | 3.8 |
| BTIA/BTIS/BTCP | gM | 32M36 | 700 | 4500 | 3.4 |
| BTIA/BTIS/BTCP | gG | 40 | 1300 | 7400 | 4.0 |
| BTIA/BTIS/BTCP | gM | 32M40 | 1300 | 7400 | 3.2 |
| BTIA/BTIS/BTCP | gG | 50 | 2600 | 15000 | 4.8 |
| BTIA/BTIS/BTCP | gM | 32M50 | 2600 | 15000 | 3 |
| BTIA/BTIS/BTCP | gG | 63 | 4000 | 23000 | 5.9 |
| BTIA/BTIS/BTCP | gM | 32M63 | 4000 | 23000 | 3 |
| BTCP | gG | 80 | 8500 | 48500 | 6.5 |
| BTCP | gM | 63M80 | 8500 | 48500 | 5.1 |
| BTCP | gG | 100 | 14000 | 80000 | 7.5 |
| BTCP | gM | 63M100 | 14000 | 80000 | 4.7 |
| BTCP | gM | 80M100 | 14000 | 80000 | 6 |

CENTRAL BOLTED TAG FUSE LINKS (B&C-TYPE)

Reference Data

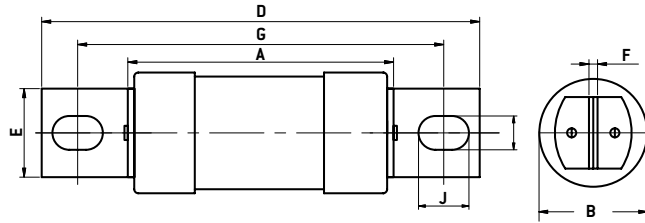
Rated Voltage: 690 V ac Breaking Capacity: 80 kA
460 V dc Breaking Capacity: 40 kA

| VOLTAGE (V) | RATING (A) | REFERENCE NUMBER | CATALOGUE NUMBER | BS TYPE REF | STD. PACK |
|----------------------|------------|------------------|------------------|-------------|-----------|
| 690 V AC 460 V DC | 80 | B1019775J | BTC69V80 | B1 | 10 |
| | 100 | A1006618J | BTC69V100 | B1 | 10 |
| | 63M80 | B1006619J | BTC69V63M80 | B1 | 10 |
| | 63M100 | C1006620J | BTC69V63M100 | B1 | 10 |
| | 80M100 | A1054366J | BTC69V80M100* | B1 | 10 |
| 690 V AC 460 V DC | 125 | D1006621E | BTF69V125 | B2 | 5 |
| | 160 | E1006622E | BTF69V160 | B2 | 5 |
| | 200 | F1006623E | BTF69V200 | B2 | 5 |
| | 125M160 | G1006624E | BTF69V125M160 | B2 | 5 |
| | 125M200 | H1006625E | BTF69V125M200 | B2 | 5 |
| 690 V AC 460 V DC | 250 | P1036991A | BTKF69V250 | B3 | 1 |
| | 315 | Q1036992A | BTKF69V315 | B3 | 1 |
| 690 V AC 460 V DC | 250 | J1006626A | BTMF69V250 | B4 | 1 |
| | 315 | K1006627A | BTMF69V315 | B4 | 1 |
| | 355 | L1006628A | BTMF69V355 | B4 | 1 |
| | 400 | M1006629A | BTMF69V400 | B4 | 1 |
| | 315M400 | N1006630A | BTMF69V315M400 | B4 | 1 |
| 690 V AC 460 V DC | 250 | P1006631A | BTM69V250 | C1 | 1 |
| | 315 | R1006633A | BTM69V315 | C1 | 1 |
| | 355 | S1006634A | BTM69V355 | C1 | 1 |
| | 400 | W1006637A | BTM69V400 | C1 | 1 |
| 690 V AC | 450 | Y1006639A | BTTM69V450 | C2 | 1 |
| | 500 | Z1006640A | BTTM69V500 | C2 | 1 |
| | 560 | A1006641A | BTTM69V560 | C2 | 1 |
| | 630 | B1006642A | BTTM69V630 | C2 | 1 |
| 690 V AC | 670 | D1019271A | BTLM69V670 | C3 | 1 |
| | 710 | E1019272A | BTLM69V710 | C3 | 1 |
| | 750 | F1019273A | BTLM69V750 | C3 | 1 |
| | 800 | G1019274A | BTLM69V800 | C3 | 1 |

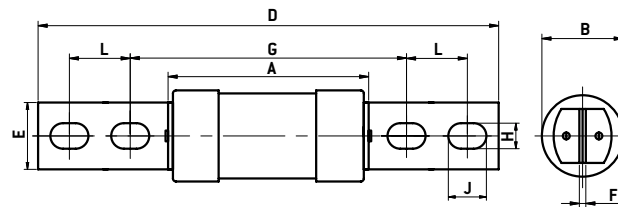


Note:
1. Note that items marked with an * are not ASTA Certified.

Dimensions



| BS REF | FUSE TYPE | CURRENT RATING (A) | DIMENSIONS (MM) | | | | | | | |
|--------|-----------|---------------------------------|-----------------|-------|-------|-------|-------|-------|-------|-------|
| | | | A MAX | B MAX | D MAX | E MAX | F NOM | G NOM | H NOM | J NOM |
| B1 | BTC | 80, 100, 63M80, 63M100, 80M100 | 57 | 26.9 | 137 | 19.5 | 3.2 | 111 | 8.7 | 14 |
| B2 | BTF | 125, 160, 200, 125M160, 125M200 | 73 | 41.9 | 138 | 19.5 | 3.2 | 111 | 8.7 | 14 |
| B3 | BTKF | 250, 315 | 73 | 41.9 | 138 | 19.5 | 3.2 | 111 | 8.7 | 14 |
| B4 | BTMF | 250, 315, 355, 400, 315M400 | 75 | 59.1 | 138 | 26 | 4.8 | 111 | 8.7 | 14 |



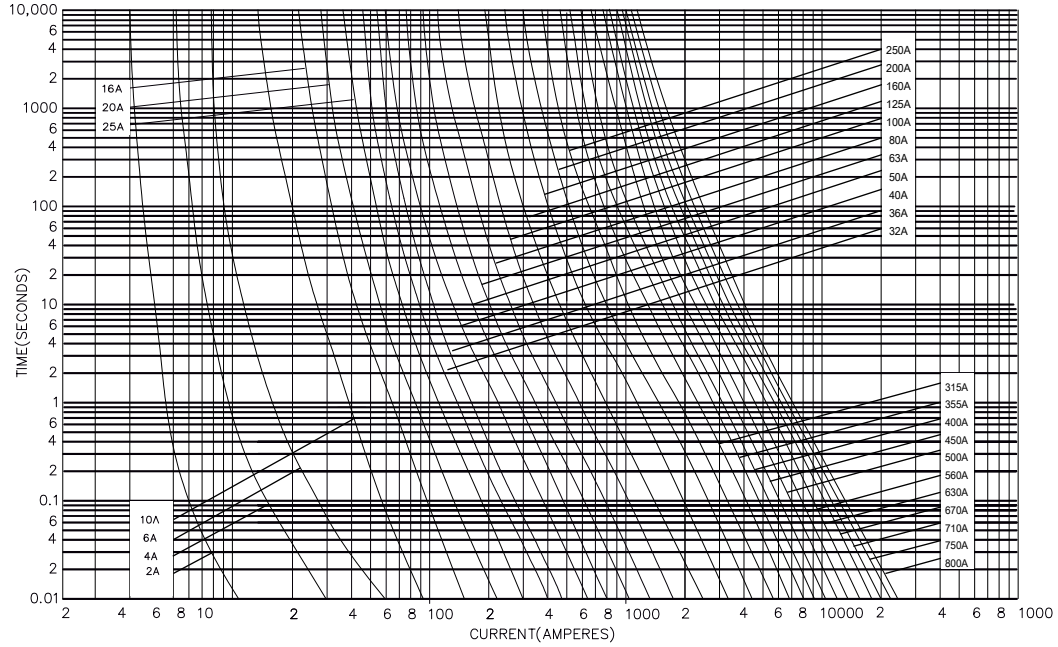
| BS REF | FUSE TYPE | CURRENT RATING (A) | DIMENSIONS (MM) | | | | | | | | |
|--------|-----------|--------------------|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | | A MAX | B MAX | D MAX | E MAX | F NOM | G NOM | H NOM | J NOM | L NOM |
| C1 | BTM | 250, 315, 355, 400 | 75 | 59.1 | 212 | 26 | 4.8 | 133 | 10.3 | 16 | 25.4 |
| C2 | BTTM | 450, 500, 560, 630 | 83 | 74.4 | 212 | 26 | 6.3 | 133 | 10.3 | 16 | 25.4 |
| C3 | BTLM | 670, 710, 750, 800 | 86 | 82.4 | 212 | 26 | 9.5 | 133 | 10.3 | 16 | 25.4 |

Electrical characteristics

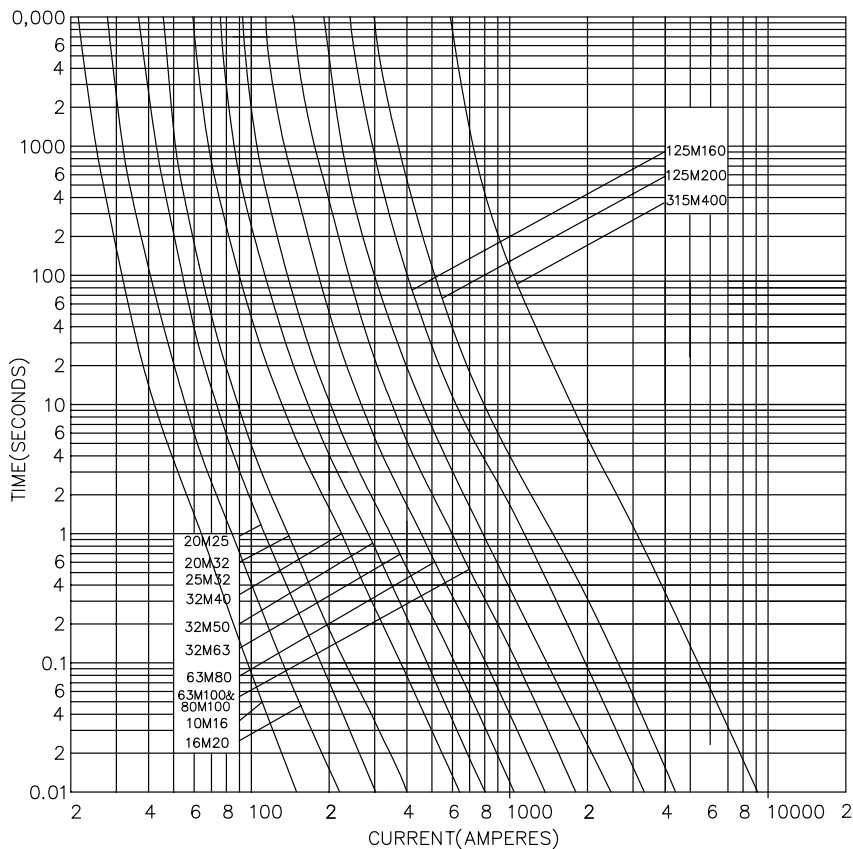
| FUSE TYPE | CURVE TYPE | CURRENT RATING (A) | I ² T (AMPERE ² SECONDS) | | WATT LOSS |
|---------------|------------|--------------------|--|----------|-----------|
| | | | PRE ARCING | TOTAL | |
| BTC | gG | 80 | 8500 | 48500 | 6.5 |
| BTC | gM | 63M80 | 8500 | 48500 | 5.1 |
| BTC | gG | 100 | 14000 | 80000 | 7.5 |
| BTC | gM | 63M100 | 14000 | 80000 | 4.7 |
| BTC | gM | 80M100 | 14000 | 80000 | 6 |
| BTF | gG | 125 | 28000 | 140000 | 11.3 |
| BTF | gG | 160 | 60000 | 300000 | 14.5 |
| BTF | gM | 125M160 | 60000 | 300000 | 11.3 |
| BTF | gG | 200 | 105000 | 350000 | 16.2 |
| BTF | gM | 125M200 | 105000 | 350000 | 10.1 |
| BTMF/BTM/BTKF | gG | 250 | 190000 | 700000 | 24 |
| BTMF/BTM/BTKF | gG | 315 | 270000 | 1350000 | 31 |
| BTMF/BTM | gG | 355 | 395000 | 1975000 | 32 |
| BTMF/BTM | gG | 400 | 505000 | 2525000 | 38 |
| BTMF | gM | 315M400 | 505000 | 2525000 | 30 |
| BTTM | gG | 450 | 650000 | 3300000 | 42 |
| BTTM | gG | 500 | 850000 | 4250000 | 48 |
| BTTM | gG | 560 | 1200000 | 5800000 | 50 |
| BTTM | gG | 630 | 1546000 | 9800000 | 54 |
| BTLM | gG | 670 | 1950000 | 10100000 | 60 |
| BTLM | gG | 710 | 2400000 | 12000000 | 62 |
| BTLM | gG | 750 | 3000000 | 14200000 | 65 |
| BTLM | gG | 800 | 3769000 | 15000000 | 68 |

TIME VS. CURRENT CHARACTERISTICS

gG Curves - 2 to 800A - 690 V ac

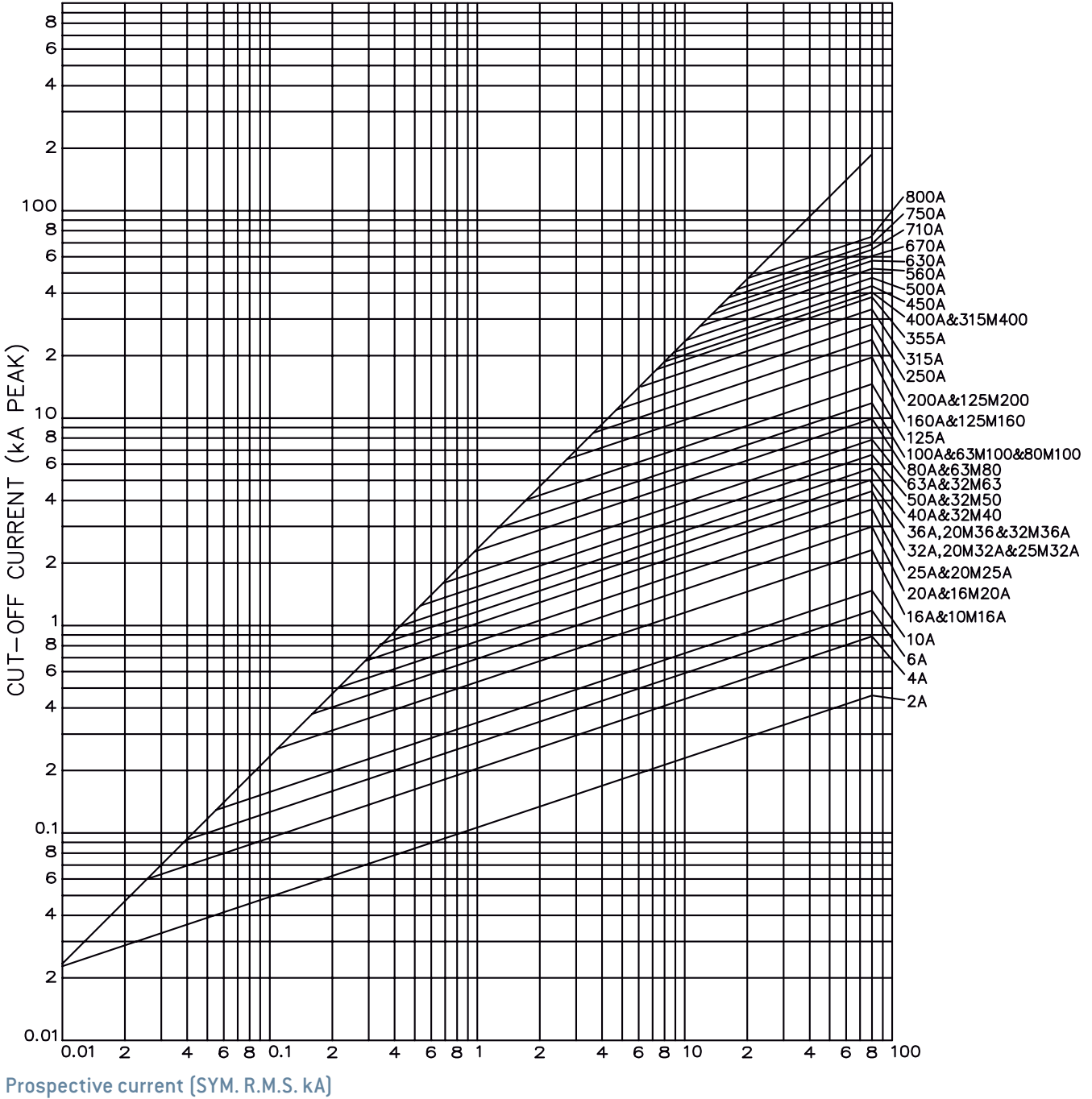


gM Curves - 10M16 to 315M400A - 690 V ac

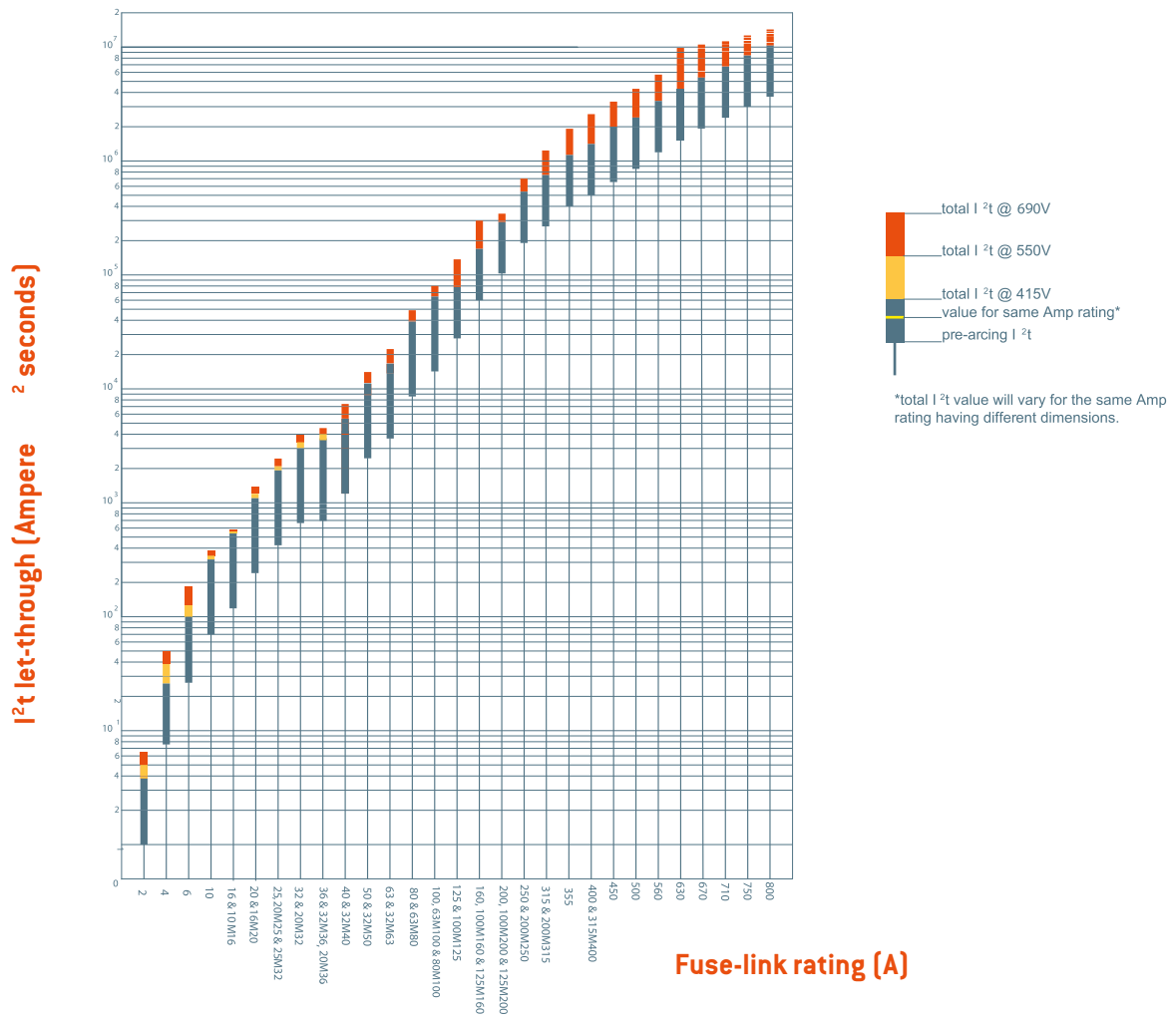


CUT-OFF CURRENT CHARACTERISTICS

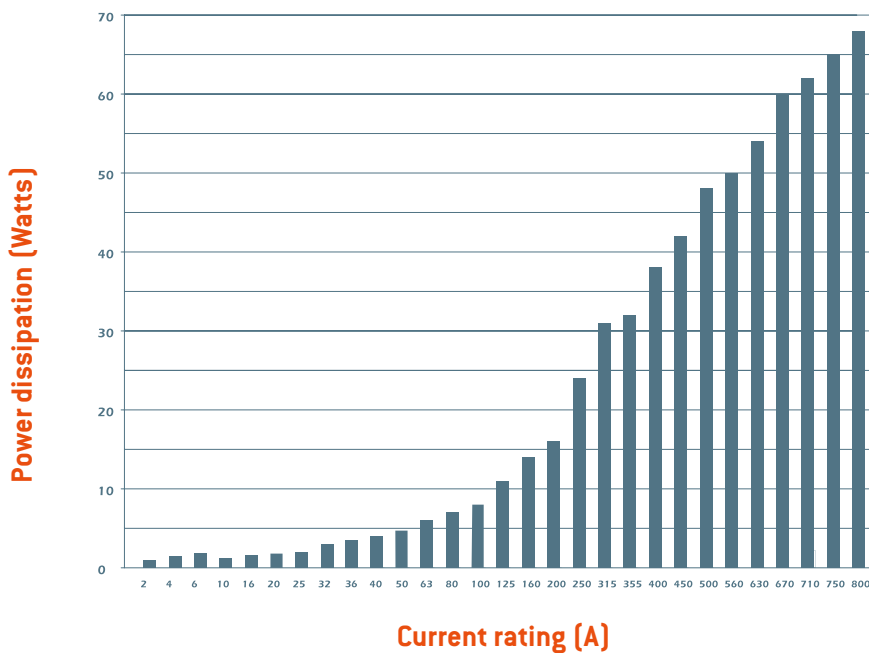
A, B, C, & F - Type 550/690 V ac



I²T CHARACTERISTICS



Power dissipation charte



APPLICATION INFORMATION

Voltage rating selection

BS88 fuses comply with IEC 60269 standards. They are tested under a voltage at least 10% higher than the fuse rated voltage.

Ambient temperature

Above an ambient of 40°C a general de-rating of 0.5% of the fuse-link rated current per excess degree centigrade is recommended.

Cable protection

gG fuses protect cables against both overload and short circuit. The cable is protected when the following conditions are fulfilled.

$$I_B \leq I_N \leq I_z$$

$$I_F \leq 1.45I_z$$

I_B : Operating current of the cable

I_z : Maximum current carrying capacity of the cable

I_N : Rated current of the fuse

I_F : Conventional fusing current of the fuse

Capacitor circuit protection

The fuse selection must take into account:

- The inrush current occurring when the capacitor is switched on.
- The harmonic currents during the normal operation of the network.
- Capacitor tolerances.

The fuse link should be chosen with a current rating greater than 1.7 times the rated capacitor current. Correction for ambient temperature higher than 40°C must be added.

Transformer protection

Fuses must be fitted both in the primary and the secondary of the transformer. The fuse selection must take into account the high transient inrush current in the primary of the transformer. Consequently the normal current rating of the fuse links on the primary side of transformers should be at least twice the nominal transformer primary current. The normal I_n value of the fuse links on the secondary side of transformers is at least equal to the nominal transformer secondary current when the temperature does not exceed 40°C.

Motor circuit protection

The motor starter manufacturers generally recommend the fuse link rating to be used in conjunction with the motor starter. Type 2 co-ordination is easily obtained with Mersen fuses in view of having the pre-arcing I^2t values closer to the lower limit of the specified limits of the standard. The gM fuse selection as for an aM fuse requires the melt current at 5 seconds is 7 times the fuse rating.

Protection against electrical shock

The rule is to disconnect within a time specified by local standards. Generally wiring regulations require a disconnecting time not exceeding 5 seconds for a distribution circuit. It will be less than 1 second in many other cases. The maximum value of each fault loop impedance (Z_s) for gG fuse link for BS88: part 2 & 6 are as shown at 240V.

| RATING (A) | Z_s (OHMS) |
|------------|--------------|
| 2 | 40.00 |
| 4 | 20.00 |
| 6 | 15.00 |
| 10 | 8.00 |
| 16 | 4.90 |
| 20 | 3.48 |
| 25 | 2.67 |
| 32 | 2.18 |
| 36 | 1.85 |
| 40 | 1.60 |
| 50 | 1.26 |
| 63 | 0.93 |
| 80 | 0.68 |
| 100 | 0.48 |
| 125 | 0.43 |
| 160 | 0.29 |
| 200 | 0.22 |
| 250 | 0.171 |
| 315 | 0.137 |
| 355 | 0.126 |
| 400 | 0.114 |
| 450 | 0.100 |
| 500 | 0.086 |
| 560 | 0.077 |
| 630 | 0.071 |
| 670 | 0.063 |
| 710 | 0.056 |
| 750 | 0.053 |
| 800 | 0.050 |

BS88 FUSE HOLDERS

For Offset Blade & Bolted Tag Fuse Links

For Offset Blade & Bolted Tag Fuse Links

Fuse holders from Mersen comply with BS88-1 and BS88-6: 1988. The fuse holders are designed to prevent direct contact with live parts when being inserted or removed, preventing any likelihood of inadvertent contact with live metal. Also, cable terminals within the fuse base are fully shrouded when holder is removed (product is IP2X Classified).

Type Of Connection



BFF Front wire connected
(front-front) 3 connection styles possible: Mounting on board with cable upstream and downstream



BBB Back stud connected
(back-back) Mounting on board with two cables on the back (connection via lug. see table)



BFB Front Back (busbar) stud connected Mounting on board with upstream or downstream cable and back cable



Advantage

1. DIN Rail Mounting for ease of assembly
2. Safety Shrouds
3. Options for colour and terminations
4. RoHs compliance



For Offset Blade & Bolted Tag Fuse Links

| TYPE | VOLTAGE RATING (V) | NOMINAL CURRENT (A) | COLOR | CONNECTION | REFERENCE NUMBER | CATALOGUE NUMBER | STANDARD PACK | MERSEN USE/NEUTRAL LINK TYPE |
|------|--------------------|---------------------|-------|-------------|------------------|------------------|---------------|---|
| F1 | 550 | 32 | Black | Front-Front | A230138F | BFF32F1 | 6 | BNS55Vxx |
| F1 | 550 | 32 | Black | Back-Back | N239120F | BBB32F1 | 6 | |
| F1 | 550 | 32 | Black | Front-Back | B230139F | BFB32F1 | 6 | |
| F1 | 550 | 32 | Green | Front-Front | B1012553F | BFF32F1G | 6 | |
| F1 | 550 | 32 | Green | Back-Back | V1012547F | BBB32F1G | 6 | |
| F1 | 550 | 32 | Green | Front-Back | Y1012550F | BFB32F1G | 6 | |
| F1 | 550 | 32 | White | Front-Front | P239121F | BFF32F1W | 6 | BNEUTRALF1 |
| F1 | 550 | 32 | White | Back-Back | Q239122F | BBB32F1W | 6 | |
| F1 | 550 | 32 | White | Front-Back | R239123F | BFB32F1W | 6 | |
| F1 | 550 | 32 | - | - | D239134J | BNEUTRALF1 | 10 | - |
| F2 | 550 | 63 | Black | Front-Front | S239124F | BFF63F2 | 6 | BES55Vxx BES42Vxx |
| F2 | 550 | 63 | Black | Back-Back | T239125F | BBB63F2 | 6 | |
| F2 | 550 | 63 | Black | Front-Back | V239126F | BFB63F2 | 6 | |
| F2 | 550 | 63 | Green | Front-Front | Z239130F | BFF63F2G | 6 | |
| F2 | 550 | 63 | Green | Back-Back | A239131F | BBB63F2G | 6 | |
| F2 | 550 | 63 | Green | Front-Back | B239132F | BFB63F2G | 6 | |
| F2 | 550 | 63 | White | Front-Front | W239127F | BFF63F2W | 6 | BNEUTRALF2 |
| F2 | 550 | 63 | White | Back-Back | X239128F | BBB63F2W | 6 | |
| F2 | 550 | 63 | White | Front-Back | Y239129F | BFB63F2W | 6 | |
| F2 | 550 | 63 | - | - | E239135J | BNEUTRALF2 | 10 | - |
| A1 | 550 | 32 | Black | Front-Front | D239088F | BFF32A1 | 6 | BNIT55Vxx |
| A1 | 550 | 32 | Black | Back-Back | E239089F | BBB32A1 | 6 | |
| A1 | 550 | 32 | Black | Front-Back | F239090F | BFB32A1 | 6 | |
| A1 | 550 | 32 | Green | Front-Front | K239094F | BFF32A1G | 6 | |
| A1 | 550 | 32 | Green | Back-Back | L239095F | BBB32A1G | 6 | |
| A1 | 550 | 32 | Green | Front-Back | M239096F | BFB32A1G | 6 | |
| A1 | 550 | 32 | White | Front-Front | G239091F | BFF32A1W | 6 | BNEUTRALA1 |
| A1 | 550 | 32 | White | Back-Back | H239092F | BBB32A1W | 6 | |
| A1 | 550 | 32 | White | Front-Back | J239093F | BFB32A1W | 6 | |
| A1 | 550 | 32 | - | - | F239136J | BNEUTRALA1 | 10 | - |
| A2 | 690 | 32 | Black | Front-Front | C230140F | BFF32A2 | 6 | BTIA55Vxx BTIA69Vxx |
| A2 | 690 | 32 | Black | Back-Back | P1012542F | BBB32A2 | 6 | |
| A2 | 690 | 32 | Black | Front-Back | D230141F | BFB32A2 | 6 | |
| A2 | 690 | 32 | Green | Front-Front | Z1012551F | BFF32A2G | 6 | |
| A2 | 690 | 32 | Green | Back-Back | S1012545F | BBB32A2G | 6 | |
| A2 | 690 | 32 | Green | Front-Back | W1012548F | BFB32A2G | 6 | |
| A2 | 690 | 32 | White | Front-Front | A1012552F | BFF32A2W | 6 | BNEUTRALA2 |
| A2 | 690 | 32 | White | Back-Back | T1012546F | BBB32A2W | 6 | |
| A2 | 690 | 32 | White | Front-Back | X1012549F | BFB32A2W | 6 | |
| A2 | 690 | 32 | - | - | G239137J | BNEUTRALA2 | 10 | - |
| A3 | 690 | 63 | Black | Front-Front | F230143F | BFF63A3 | 6 | BTSS42Vxx BTSDS42Vxx BTSDS42Vxxx BTIS69Vxx |
| A3 | 690 | 63 | Black | Back-Back | V239103F | BBB63A3 | 6 | |
| A3 | 690 | 63 | Black | Front-Back | G230144F | BFB63A3 | 6 | |
| A3 | 690 | 63 | Green | Front-Front | Z239107F | BFF63A3G | 6 | |
| A3 | 690 | 63 | Green | Back-Back | A239108F | BBB63A3G | 6 | |
| A3 | 690 | 63 | Green | Front-Back | B239109F | BFB63A3G | 6 | |
| A3 | 690 | 63 | White | Front-Front | W239104F | BFF63A3W | 6 | BNEUTRALA3 |
| A3 | 690 | 63 | White | Back-Back | X239105F | BBB63A3W | 6 | |
| A3 | 690 | 63 | White | Front-Back | Y239106F | BFB63A3W | 6 | |
| A3 | 690 | 63 | - | - | H239138J | BNEUTRALA3 | 10 | - |
| A4 | 690 | 125 | Black | Front-Front | H230145A | BFF125A4 | 1 | BTSD42Vxxx BTCP42Vxxx BTCP69Vxxx |
| A4 | 690 | 125 | Black | Back-Back | C239110A | BBB125A4 | 1 | |
| A4 | 690 | 125 | Black | Front-Back | J230146A | BFB125A4 | 1 | |
| A4 | 690 | 125 | Green | Front-Front | K239117A | BFF125A4G | 1 | |
| A4 | 690 | 125 | Green | Back-Back | L239118A | BBB125A4G | 1 | |
| A4 | 690 | 125 | Green | Front-Back | M239119A | BFB125A4G | 1 | |
| A4 | 690 | 125 | White | Front-Front | D239111A | BFF125A4W | 1 | BNEUTRALA4 |
| A4 | 690 | 125 | White | Back-Back | E239112A | BBB125A4W | 1 | |
| A4 | 690 | 125 | White | Front-Back | F239113A | BFB125A4W | 1 | |
| A4 | 690 | 125 | - | - | J239139J | BNEUTRALA4 | 10 | - |

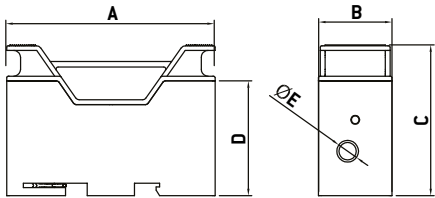
BS88 FUSE HOLDERS

Technical characteristics

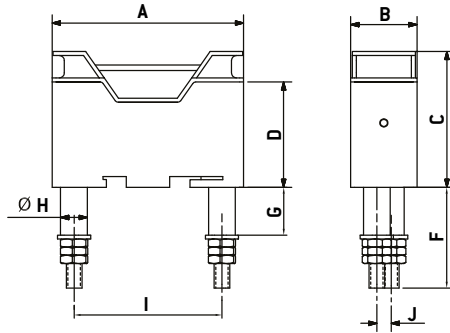
| SPECIFICATIONS | F1 | F2 | A1 | A2 | A3 | A4 |
|---|---|--------------------|----------------------|----------------------|----------------------|----------------------|
| 3 kinds of electrical connections in Black White & Green | | | | | | |
| Front connected | BFF32F1 | BFF63F2 | BFF32A1 | BFF32A2 | BFF63A3 | BFF125A4 |
| Back connected | BBB32F1 | BBB63F2 | BBB32A1 | BBB32A2 | BBB63A3 | BBB125A4 |
| Front Back connected | BFB32F1 | BFB63F2 | BFB32A1 | BFB32A2 | BFB63A3 | BFB125A4 |
| Cable cross-section for font connection | | | | | | |
| Min: 1 or 2 cables | 1 mm ² | 1 mm ² | 1 mm ² | 1 mm ² | 1 mm ² | 1 mm ² |
| Max: 1 cable | 16 mm ² | 25 mm ² | 16 mm ² | 16 mm ² | 50 mm ² | 70 mm ² |
| Max: 2 cables | 10 mm ² | 16 mm ² | 10 mm ² | 10 mm ² | 25 mm ² | 35 mm ² |
| Type of wire to be used: Copper multi strand or single strand Note: Multistrand cable with maximum 17 strands. For more than 17 strands a circular sleeve at the end of the cable is compulsory | | | | | | |
| Lug diameter of the cable for Back & Busbar connection terminal diameter (refer Note) | M6 | M8 | M6 | M6 | M8 | M8 |
| DIN Rail Mounting | 35 mm DIN Rail | | | | | |
| Whether the plastic material complies with RoHS | Thermoplastic Polyamid, RoHS compliant & Fire Retardant | | | | | |
| Diameter of the screw to be used for panel mounting Deep base = 4mm | M5 screw (Pan head/Cheese head) | | | | | |
| Max torque for the mounting screw on the panel | 3.5 Nm | 4 Nm | 3.5 Nm | 4 Nm | 3.5 Nm | 4 Nm |
| Max torque for the grub screw (back & bus bar connections) | 3.5 Nm | 4 Nm | 3.5 Nm | 3.5 Nm | 3.5 Nm | 4 Nm |
| Certification | ASTA | | | | | |
| Rated Voltage | 550 V AC 250 V DC | 550 V AC | 550 V AC 250 V DC | 690 V AC 460 V DC | 690 V AC 460 V DC | 690 V AC 460 V DC |
| Rated Current | 32 A | 63 A | 32 A | 32 A | 63 A | 125 A |
| Rated peak withstand current @ rated voltage | 80 kA | | | | | |
| Tool specification for tightening Electric Screw driver / Manual crew driver - Max Torque setting | 3.5 Nm | 4 Nm | 3.5 Nm | 4 Nm | 4 Nm | 4 Nm |
| Screwdriver bit | Diameter 6 x 100mm | | | | | |
| with working edge thickness of 1mm and width of 7mm | 0.8 x 4.8 mm | 1 x 6 mm | 0.8 x 4.8 mm | 1 x 6 mm | 1 x 6 mm | 1 x 6 mm |
| U imp according to IEC 60269-1 | 8 kA | | | | | |

Dimensions for F type

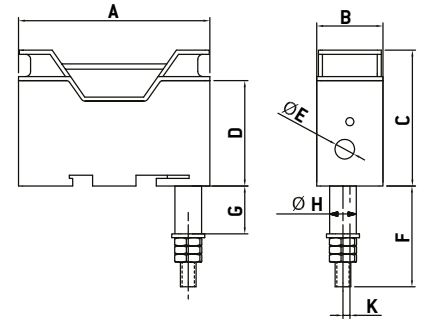
Front Front Connection (BFF)



Back Back Connection (BBB)

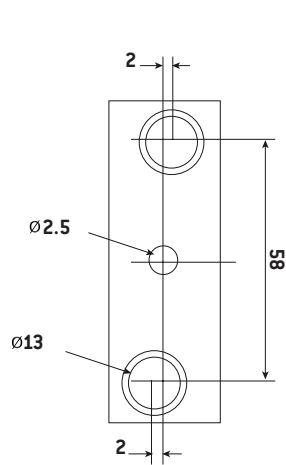


Front Back (Busbar) Connection (BFB)

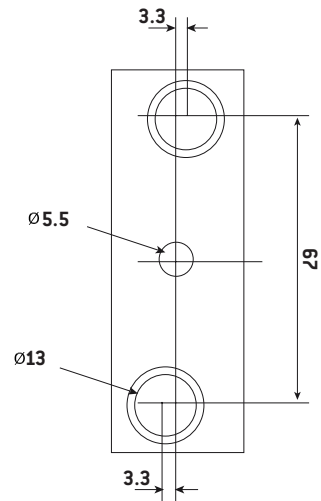


| FUSE HOLDER TYPE | A | B | C | D | E | F | G | H | I | J | K |
|------------------|------|------|----|------|-----|----|------|-----|----|-----|-----|
| BFF32F1 | 75.5 | 26.5 | 54 | 41.5 | 7.8 | - | - | - | - | - | - |
| BBB32F1 | 75.5 | 26.5 | 54 | 41.5 | - | 40 | 17 | 9.7 | 58 | 5.6 | - |
| BFB32F1 | 75.5 | 26.5 | 54 | 41.5 | 7.8 | 40 | 17 | 9.7 | - | - | 2.7 |
| BFF63F2 | 89 | 28.5 | 64 | 48.6 | 9 | - | - | - | - | - | - |
| BBB63F2 | 89 | 28.5 | 64 | 48.6 | - | 39 | 18.3 | 12 | 67 | 7 | - |
| BFB63F2 | 89 | 28.5 | 64 | 48.6 | 9 | 39 | 18.3 | 12 | - | - | 3.3 |

Panel Drilling Dimensions



For F1



For F2

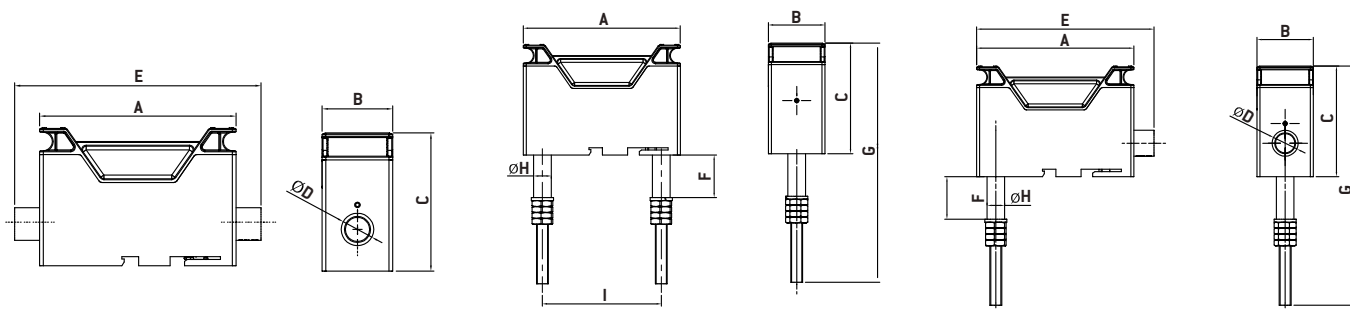
BS88 FUSE HOLDERS

Dimensions for A type

Front Front Connection (BFF)

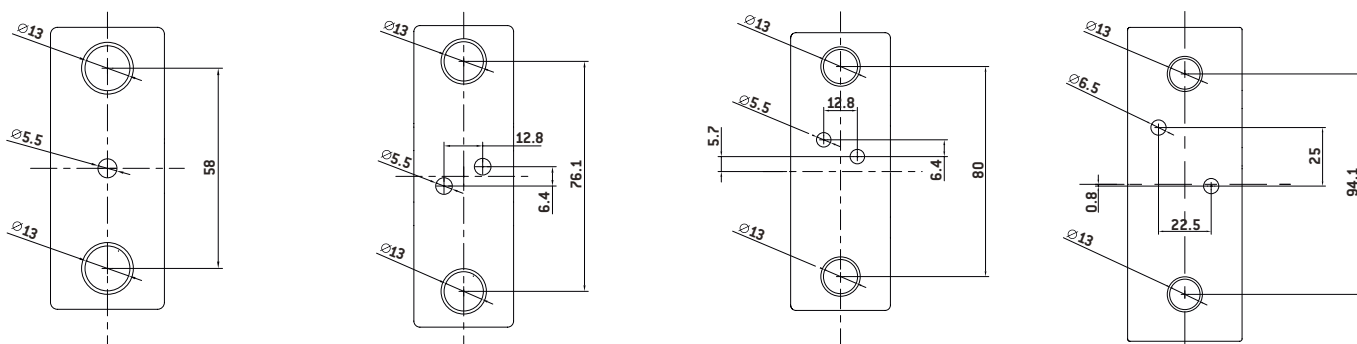
Back Back Connection (BBB)

Front Back (Busbar) Connection (BFB)



| FUSE HOLDER TYPE | A | B | C | D | E | F | G | H | I |
|------------------|-------|------|------|------|-------|------|-------|------|------|
| BFF32A1 | 77.2 | 27.5 | 57 | 9 | 97.2 | - | - | - | - |
| BBB32A1 | 77.2 | 27.5 | 57 | - | - | 28.6 | 122 | 11.9 | 58 |
| BFB32A1 | 77.2 | 27.5 | 57 | 9 | 87.2 | 28.6 | 122 | 11.9 | - |
| BFF32A2 | 99.8 | 33 | 56 | 9 | 119.8 | - | - | - | - |
| BBB32A2 | 99.8 | 33 | 56 | - | - | 28.6 | 122 | 11.9 | 76.1 |
| BFB32A2 | 99.8 | 33 | 56 | 9 | 109.8 | 28.6 | 122 | 11.9 | - |
| BFF63A3 | 105.8 | 38 | 74.5 | 17.5 | 132.8 | - | - | - | - |
| BBB63A3 | 105.8 | 38 | 74.5 | - | - | 28.6 | 161 | 11.9 | 80 |
| BFB63A3 | 105.8 | 38 | 74.5 | 17.5 | 119.3 | 28.6 | 161 | 11.9 | - |
| BFF125A4 | 134 | 48.9 | 97.8 | 17.5 | 165.7 | - | - | - | - |
| BBB125A4 | 134 | 48.9 | 97.8 | - | - | 28.6 | 184.4 | 11.9 | 94.1 |
| BFB125A4 | 134 | 48.9 | 97.8 | 17.5 | 149.9 | 28.6 | 184.4 | 11.9 | - |

Panel Drilling Dimensions



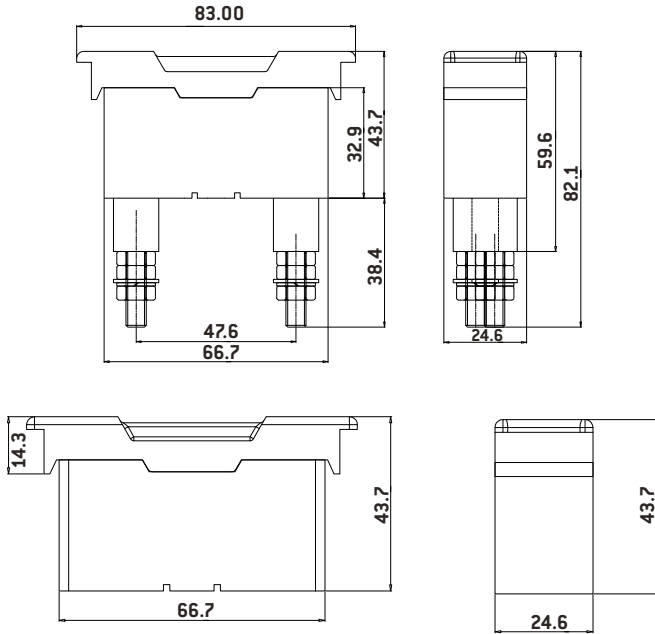
For A1

For A2

For A3

For A4

For Offset Blade - Phenolic Type



| TYPE | VOLTAGE RATING (V) | NOMINAL CURRENT (A) | COLOR | CONNECTION | REFERENCE NUMBER | CATALOGUE NUMBER | STANDARD PACK | MERSEN FUSE TYPE |
|------|--------------------|---------------------|-------|-------------|------------------|------------------|---------------|------------------|
| F1 | 550 | 32 | Black | Front-Front | T1036995F | BNSH32F1 | 6 | BNS55Vxx |
| F1 | 550 | 32 | Black | Back-Back | W1036297F | BNSP32F1 | 6 | |

| TYPE | VOLTAGE RATING (V) |
|--|---------------------------------|
| Front connected | BFF32F1 |
| Back connected | BBB32F1 |
| Cable cross-section for front connection | |
| Min: 1 or 2 cables | 1 mm ² |
| Max: 1 cable | 16 mm ² |
| Max: 2 cables | 10 mm ² |
| Type of wire to be used: Copper multi strand or single strand Note: Multistrand cable with maximum 17 strands. For more than 17 strands a circular sleeve at the end of the cable is compulsory | |
| Lug diameter of the cable for Back & Busbar connection terminal diameter (refer Note) | M6 |
| Diameter of the screw to be used for panel mounting Deep base = 4mm | M5 screw (Pan head/Cheese head) |
| Max torque for the mounting screw on the panel | 3.5 Nm |
| Max torque for the grub screw (back & bus bar connections) | 3.5 Nm |
| Rated Voltage | 550 V AC |
| Rated Current | 32 A |
| Rated peak withstand current @ rated voltage | 80 kA |
| Tool specification for tightening Electric Screw driver / Manual crew driver - Max Torque setting | 3.5 Nm |
| Screwdriver bit | Diameter 6 x 100mm |
| with working edge thickness of 1mm and width of 7mm | 0.8 x 4.8 mm |
| U imp according to IEC 60269-1 | 8 kV |

APPROVALS

ASTA
CERTIFICATE OF SHORT-CIRCUIT RATING
 Laboratory Ref. No. **820050** Certificate No. **16555**

APPARATUS: Low Voltage 10kV Fuses, which represented the maximum and minimum ratings of a homogeneous series.
 Rated voltage 10kV, Rated current 20 kA, Maximum I_{sc} 20kA

DESIGNATION: 2T1 - 6T1 and 2T1 - 6T1

MANUFACTURER: Carbone Lorraine India Private Limited, Feroz Shereef Division, A-2, E3348 Industrial Estate, G2/3, Regal Park Road, Surammanahalli, Bangalore - 560 065, India

TESTED BY: Central Power Research Institute, Switchgear Testing & Development Station, Shree-402 023, Madhya Pradesh, India.

DATE OF TESTS: 9th & 10th October 2006

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this certificate has been subjected to the series of proving tests in accordance with:

IEC 60289-1:2005, IEC 60289-2-1:2004, BS EN 60289-1:2005 (incorporating Amendment 1: 2005), BS EN 60289-2:1995 (incorporating Amendment 1), BS 88: Part 1: 1989 (incorporating Amendment No. 1 & 2), BS 88-2-1: 1988 (incorporating Amendment No. 1 & 2) and BS 88-2-2: 1988 (incorporating Amendment No. 1, 2 & 3) Class No. 8.5

The results are shown in the record of Proving Tests and the certificates attached hereto. The values obtained and the general performance are considered to comply with the above standard(s) and to justify the ratings assigned by the manufacturer as stated below.

Breaking Range and Utilization Category: gG


Rated Breaking Capacity: 80kA at 10kVac.

1. The above test series represent the maximum and minimum (MCR) ratings of a homogeneous series with a high voltage fuse link having an arcing energy (AE) value not exceeding 200000 J and a rated current of 20 kA.

The record of Proving Tests applies only to the apparatus tested. The responsibility for conformity of any apparatus having the same designations with that tested rests with the manufacturer.

This Certificate comprises: 11 pages, 2 diagrams, 22 photographs, 3 photographs, 3 drawings and no other sheets as detailed on page 3.

Only integral reproductions of this Certificate or reproductions of this page accompanied by any printed or electronic copies of the original rated characteristics of the apparatus tested, are permitted without written permission from ASTA. ASTA Certification Services, Nilton House, Corporation Street, Salford, C17 1JN, England.

 Rajan Menon
ASTA Observer

 DIRECTOR
26th January 2007 Date

ASTA
CERTIFICATE OF SHORT-CIRCUIT RATING
 Laboratory Ref. No. **8200512** Certificate No. **16554**

APPARATUS: Low Voltage 10kV Fuses, which represented the maximum and minimum ratings of a homogeneous series.
 Rated voltage 10kV, Rated current 20 kA, Maximum I_{sc} 20kA

DESIGNATIONS: 15A3 to 63A5, 20MA3, 25MA3 & 32MA3, 10A(1C)43A(1C)

MANUFACTURER: Carbone Lorraine India Private Limited, Feroz Shereef Division, A-2, E3348 Industrial Estate, G2/3, Regal Park Road, Surammanahalli, Bangalore - 560 065, India

TESTED BY: Central Power Research Institute, Switchgear Testing & Development Station, Shree-402 023, Madhya Pradesh, India.

DATE OF TESTS: 9th, 11th, 12th & 13th October 2006

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this certificate has been subjected to the series of proving tests in accordance with:

IEC 60289-1:2005, IEC 60289-2-1:2004, BS EN 60289-1:2005 (incorporating Amendment 1: 2005), BS EN 60289-2:1995 (incorporating Amendment 1), BS 88: Part 1: 1989 (incorporating Amendment No. 1 & 2), BS 88-2-1: 1988 (incorporating Amendment No. 1 & 2) and BS 88-2-2: 1988 (incorporating Amendment No. 1, 2 & 3) Class No. 8.5

The results are shown in the record of Proving Tests and the certificates attached hereto. The values obtained and the general performance are considered to comply with the above standard(s) and to justify the ratings assigned by the manufacturer as stated below.

Breaking Range and Utilization Category: gG & gM


Rated Breaking Capacity: 80kA at 10kVac.

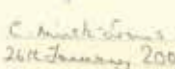
1. The above test series represent the maximum (MCR) and minimum (MCR) ratings of a homogeneous series with a high voltage fuse link having an arcing energy (AE) value not exceeding 200000 J and a rated current of 20 kA.

The record of Proving Tests applies only to the apparatus tested. The responsibility for conformity of any apparatus having the same designations with that tested rests with the manufacturer.

This Certificate comprises: 12 pages, 2 diagrams, 22 photographs, 3 photographs, 3 drawings and no other sheets as detailed on page 3.

Only integral reproductions of this Certificate or reproductions of this page accompanied by any printed or electronic copies of the original rated characteristics of the apparatus tested, are permitted without written permission from ASTA. ASTA Certification Services, Nilton House, Corporation Street, Salford, C17 1JN, England.

 Rajan Menon
ASTA Observer

 DIRECTOR
26th January 2007 Date



 **Shah & Shah Enterprise**
www.shahent.co.in
