

RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

### FEATURES

- Plastic material has UL flammability classification 94V-0
- High surge current capability
- Saves space on printed circuit boards
- Glass passivated structure

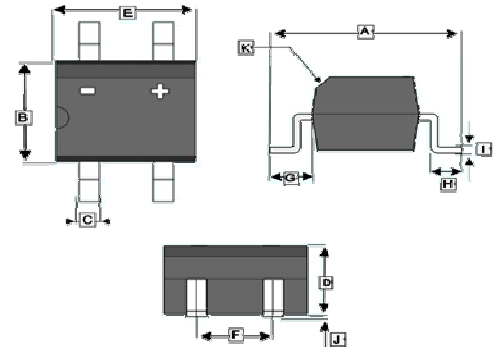
### MECHANICAL DATA

- Case: Molded plastic body over passivated junctions
- Polarity: As marked on body
- Mounting position: Any

### PACKAGE INFORMATION

| Package | MPQ | Leader Size |
|---------|-----|-------------|
| MDS     | 3K  | 13 inch     |

**MDS**



| REF. | Millimeter |      | REF. | Millimeter |      |
|------|------------|------|------|------------|------|
|      | Min.       | Max. |      | Min.       | Max. |
| A    | -          | 7.0  | G    | 1.3        | 1.7  |
| B    | 3.5        | 4.2  | H    | 0.48       | 1.1  |
| C    | 0.4        | 0.8  | I    | 0.1        | 0.45 |
| D    | 2.3        | 2.7  | J    | 0.2(TYP.)  |      |
| E    | 4.5        | 5.0  | K    | 0.5*15     |      |
| F    | 2.3        | 2.7  |      |            |      |

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Rating 25°C ambient temperature unless otherwise specified. Single phase half wave, 60Hz, resistive or inductive load.  
For capacitive load, de-rate current by 20%.)

| Parameter                                                                                         | Symbol                  | Part Number |      |      |      |      |      |      | Unit                 |
|---------------------------------------------------------------------------------------------------|-------------------------|-------------|------|------|------|------|------|------|----------------------|
|                                                                                                   |                         | MD1S        | MD2S | MD3S | MD4S | MD5S | MD6S | MD7S |                      |
| Maximum Recurrent Peak Reverse Voltage                                                            | $V_{RRM}$               | 50          | 100  | 200  | 400  | 600  | 800  | 1000 | V                    |
| Maximum RMS Voltage                                                                               | $V_{RMS}$               | 35          | 70   | 140  | 280  | 420  | 560  | 700  | V                    |
| Maximum DC Blocking Voltage                                                                       | $V_{DC}$                | 50          | 100  | 200  | 400  | 600  | 800  | 1000 | V                    |
| Maximum Average Forward Current                                                                   | On glass-epoxy P.C.B.   | 0.5         |      |      |      |      |      |      | A                    |
|                                                                                                   | On aluminum substrate   | 0.8         |      |      |      |      |      |      |                      |
| Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) | $I_{FSM}$               | 30          |      |      |      |      |      |      | A                    |
| Maximum instantaneous forward voltage @ 0.4A per leg                                              | $V_F$                   | 1           |      |      |      |      |      |      | V                    |
| Maximum DC Reverse Current at Rated DC Blocking Voltage                                           | $T_A=25^\circ\text{C}$  | 5           |      |      |      |      |      |      | $\mu\text{A}$        |
|                                                                                                   | $T_A=125^\circ\text{C}$ | 500         |      |      |      |      |      |      |                      |
| Rating for fusing, $1\text{ms} \leq t \leq 8.3\text{ms}$                                          | $I_T^2$                 | 5           |      |      |      |      |      |      | $\text{A}^2\text{s}$ |
| Thermal resistance junction to ambient <sup>1</sup>                                               | $R_{\theta JA}$         | 85          |      |      |      |      |      |      | $^\circ\text{C/W}$   |
| Thermal resistance junction to Case <sup>1</sup>                                                  | $R_{\theta JC}$         | 22          |      |      |      |      |      |      | $^\circ\text{C/W}$   |
| Thermal resistance junction to lead <sup>1</sup>                                                  | $R_{\theta JL}$         | 20          |      |      |      |      |      |      | $^\circ\text{C/W}$   |
| Operating and Storage Temperature range                                                           | $T_J, T_{STG}$          | -55~150     |      |      |      |      |      |      | $^\circ\text{C}$     |

Note:

1. On glass epoxy P.C.B. mounted on 0.05x0.05"(1.3x1.3mm) pads
2. On aluminum substrate P.C.B. with area of 0.8"x0.8"(20x20mm) mounted on 0.05X0.05"(1.3X1.3mm) solder pad

**RATINGS AND CHARACTERISTIC CURVES**

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

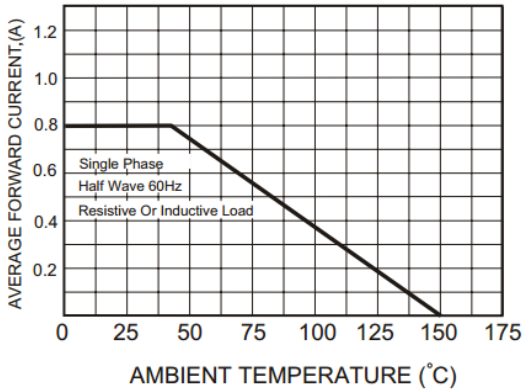


FIG.2-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

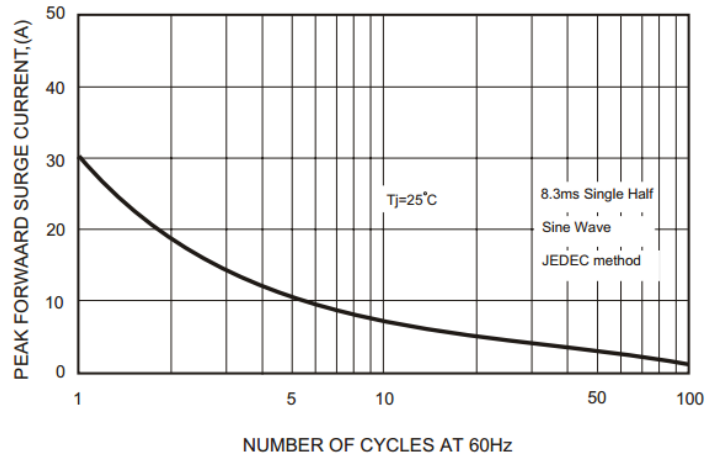


FIG.3-TYPICAL FORWARD CHARACTERISTICS

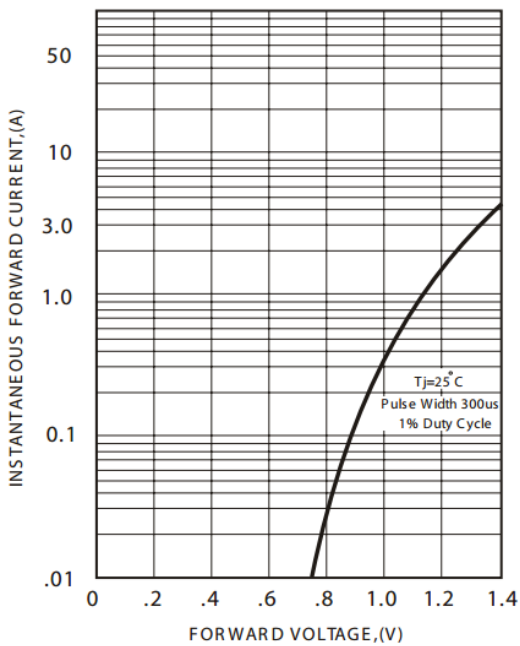


FIG.4-TYPICAL REVERSE CHARACTERISTICS

