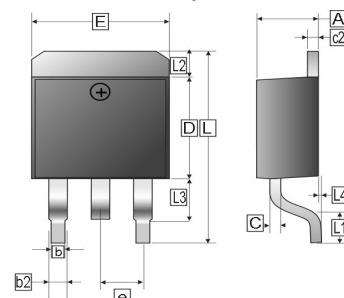
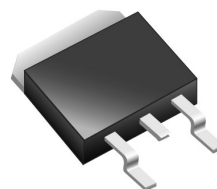


RoHS Compliant Product  
A suffix of "-C" specifies halogen free

**FEATURES**

- Fast switching for high efficiency
- 150°C Operating Junction Temperature
- Low Power Loss, High Efficiency
- High-Switching Speed 30 Nanosecond Recovery Time
- Low Forward Voltage, High Current Capability
- Plastic Material Used Carries Underwriters Laboratory Flammability Classification 94V-0

**TO-263(D<sup>2</sup>-PAK)**



**ORDER INFORMATION**

| Part Number | Type                            |
|-------------|---------------------------------|
| SF10T40DS   | Lead (Pb)-free                  |
| SF10T40DS-C | Lead (Pb)-free and Halogen-free |

**PACKAGE INFORMATION**

| Package | MPQ  | Leader Size |
|---------|------|-------------|
| TO-263  | 0.8K | 13 inch     |



| REF. | Millimeter |       | REF. | Millimeter |      |
|------|------------|-------|------|------------|------|
|      | Min.       | Max.  |      | Min.       | Max. |
| A    | 4.00       | 4.87  | c2   | 1.07       | 1.65 |
| b    | 0.51       | 1.01  | b2   | 1.34 REF   |      |
| L4   | 0.00       | 0.30  | D    | 8.0        | 9.65 |
| C    | 0.30       | 0.74  | e    | 2.54 REF   |      |
| L3   | 1.50 REF   |       | L    | 14.6       | 16.1 |
| L1   | 2.5 REF    |       | L2   | 1.27 REF   |      |
| E    | 9.60       | 10.67 |      |            |      |

**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%.)

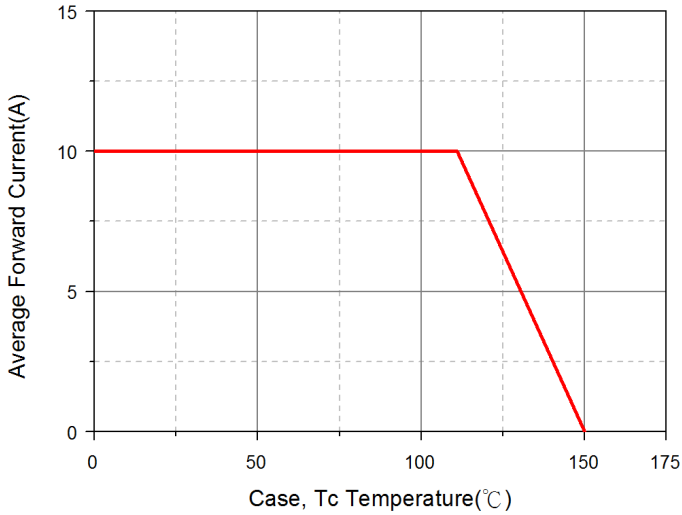
| Parameter   | Symbol                            | Rating                | Unit   |
|---|-----------------------------------|-----------------------|--------|
| Peak Repetitive Reverse Voltage   | V <sub>RRM</sub>                  | 400                   | V      |
| Working Peak Reverse Voltage  | V <sub>RWM</sub>                  | 400                   | V      |
| DC Blocking Voltage   | V <sub>R</sub>                    | 400                   | V      |
| Average Rectifier Forward Current   | I <sub>F(AV)</sub>                | 10                    | A      |
| Non-Repetitive Peak Surge Current @ Surge applied at rate load conditions half-wave, single phase, 60Hz | I <sub>FSM</sub>                  | 90                    | A      |
| Max. Instantaneous Forward Voltage @ I <sub>F</sub> =10A  | V <sub>F</sub>                    | 1.3                   | V      |
| Max. Instantaneous Reverse Current <sup>2</sup>   | I <sub>R</sub>                    | T <sub>J</sub> =25°C  | 5      |
|   |                                   | T <sub>J</sub> =100°C | 20     |
| Reverse Recovery Time <sup>3</sup>  | T <sub>RR</sub>                   | 30                    | nS     |
| Typical Junction Capacitance <sup>1</sup>   | C <sub>J</sub>                    | 45                    | pF     |
| Typical Thermal Resistance from Junction to Case <sup>4</sup>   | R <sub>θJC</sub>                  | 3                     | °C / W |
| Operating Junction and Storage Temperature Range  | T <sub>J</sub> , T <sub>STG</sub> | 150, -55~150          | °C     |

Notes:

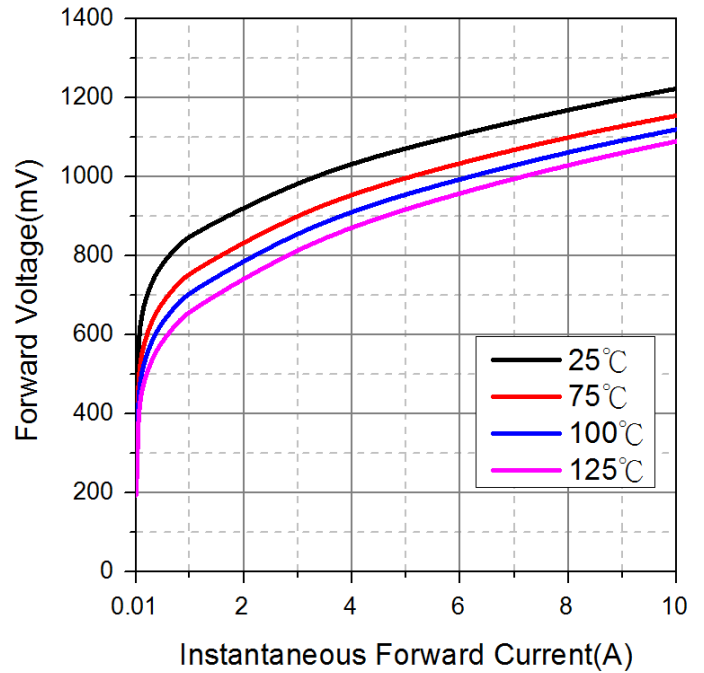
1. Measured at 1MHz and applied reverse voltage of 5V D.C.
2. Pulse Test: Pulse Width=300µs, Duty Cycle ≤2%.
3. I<sub>F</sub>=0.5A, I<sub>R</sub> =1A, I<sub>RR</sub>=0.25A.
4. Surface mounted on 10cm x 10cm x 1mm copper pad area.

**RATINGS AND CHARACTERISTIC CURVES**

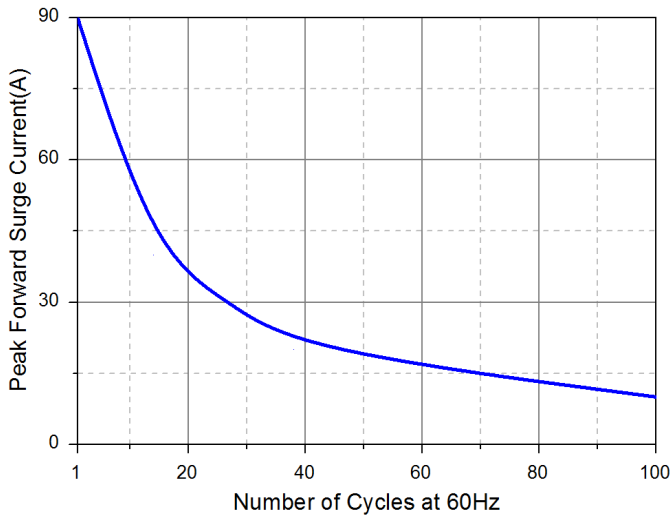
Typical Forward Current Derating Curve



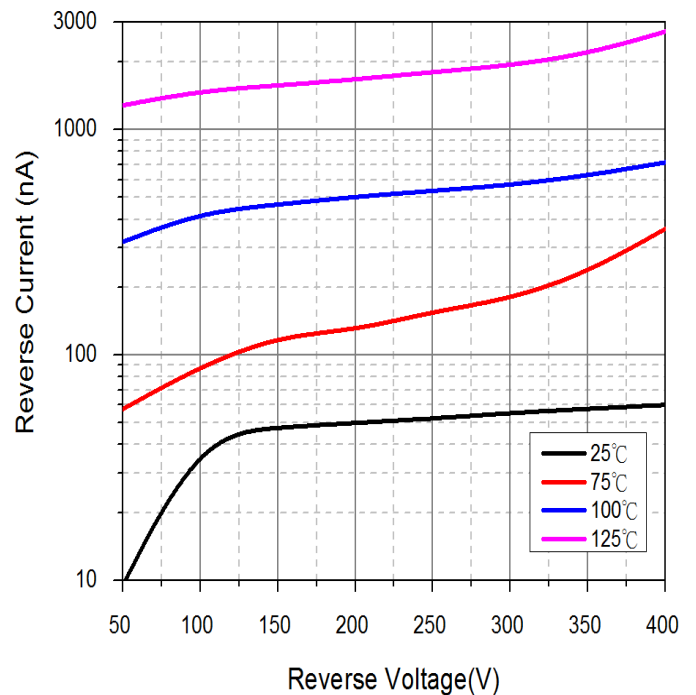
Typical Forward Characteristic



Maximum Non-Repetitive Forward Surge Current



Typical Reverse Characteristic



Typical Junction Capacitance

