

RoHS Compliant Product

A suffix of "-C" specifies halogen & lead-free

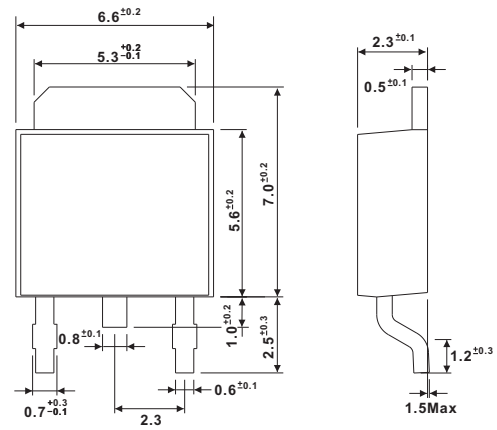
**D-Pack**

**FEATURES**

- . Low forward voltage drop
- . High current capability
- . High reliability
- . High surge current capability
- . Epitaxial construction

**MECHANICAL DATA**

- . Case: Molded plastic
- . Epoxy: UL 94V-0 rate flame retardant
- . Metallurgically bonded construction
- . Polarity: Color band denotes cathode end
- . Mounting position: Any
- . Weight: 0.70 grams



PIN 1  
PIN 3  
PIN 2  
CASE  
Positive CT  
Suffix "C"

Dimensions in millimeters

**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, derate current by 20%.

| TYPE NUMBER  | SM820D     | SM840D | SM860D | SM8100D | UNITS |
|--|------------|--------|--------|---------|-------|
| Maximum Recurrent Peak Reverse Voltage   | 20         | 40     | 60     | 100     | V     |
| Working Peak Reverse Voltage   | 20         | 40     | 60     | 100     | V     |
| Maximum DC Blocking Voltage  | 20         | 40     | 60     | 100     | V     |
| Maximum Average Forward Rectified Current, See Fig. 1  | 8.0        |        |        |         | A     |
| Peak Forward Surge Current, 8.3 ms single half Sine-wave superimposed on rated load (JEDEC method) | 80         |        |        |         | A     |
| Maximum Instantaneous Forward Voltage at 4.0A  | 0.55       |        | 0.65   | 0.83    | V     |
| Maximum DC Reverse Current Ta=25 °C  | 0.3        |        | 0.15   | 0.05    | mA    |
| At Rated DC Blocking Voltage Ta=100 °C   | 45         |        | 22.5   | 7.5     |       |
| Typical Junction Capacitance (Note 1)  | 250        |        |        |         | pF    |
| Typical Thermal Resistance RθJC (Note 2)   | 10         |        |        |         | /W    |
| Operating Temperature Range T <sub>J</sub>   | -50 ~ +150 |        |        |         |       |
| Storage Temperature Range T <sub>STG</sub>   | -65 ~ +175 |        |        |         |       |

**NOTES:**

1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. Thermal Resistance Junction to Ambient Vertical PC Board Mounting 0.5"(12.7mm) Lead Length.

**RATING AND CHARACTERISTIC CURVES (SM820D THRU SM8100D)**

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

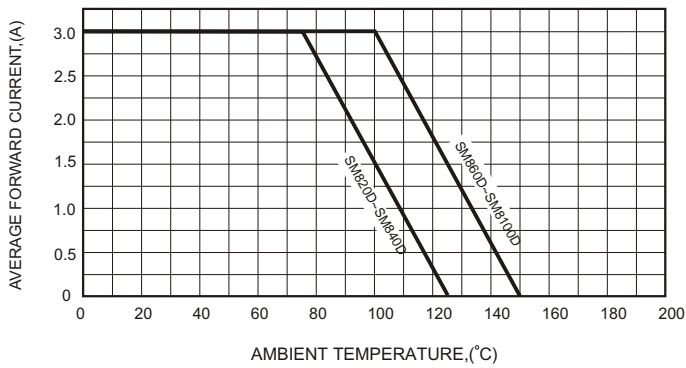


FIG.2-TYPICAL FORWARD CHARACTERISTICS

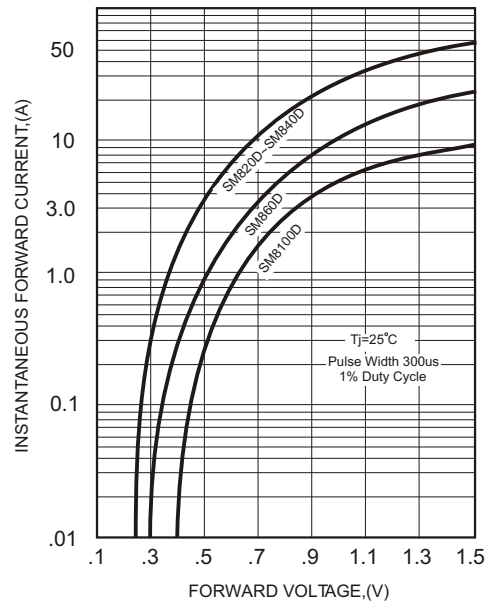


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

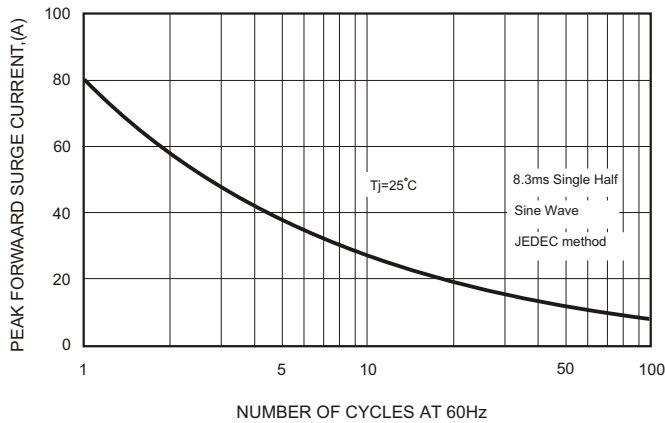


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

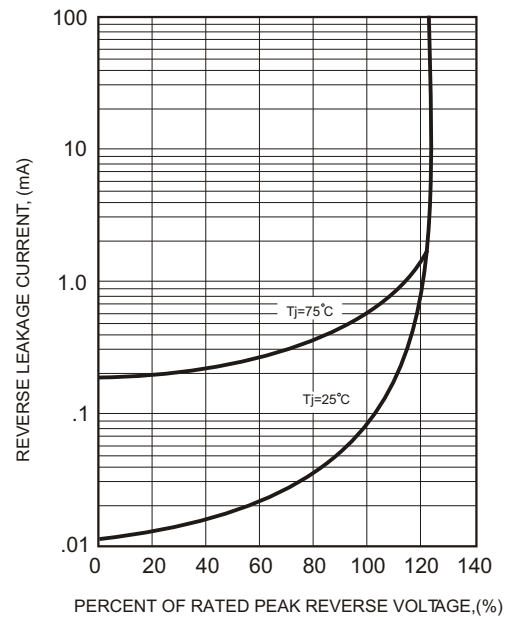


FIG.4-TYPICAL JUNCTION CAPACITANCE

