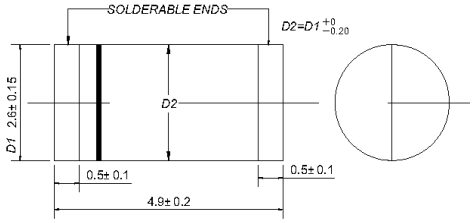
SM513G THRU SM516G

SURFACE MOUNT GLASS PASSIVATED RECTIFIERS

Reverse Voltage - 1300 to 1600 V
Forward Current - 1 A

Features

- Glass passivated device
- Ideal for surface mounted applications
- Low leakage current
- Glass passivated device
- Metallurgically bonded construction



Plastic case MELF (DO-213AB)
Dimensions in millimeters

Mechanical data

- **Case:** MELF (DO-213AB) molded plastic
- **Terminals:** Solder plated, solderable per MIL-STD-750, method 2026
- **Polarity:** Color band denotes cathode end
- **Mounting position:** Any

Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbols	SM513G	SM516G	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	1300	1600	V
Maximum RMS Voltage	V_{RMS}	910	1120	V
Maximum DC Blocking Voltage	V_{DC}	1300	1600	V
Maximum Average Forward Rectified Current at T_A = 75 °C	$I_{F(AV)}$	1		A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	40		A
Maximum Forward Voltage at 1 A	V_F	1.1		V
Maximum Reverse Current T_A = 25 °C at Rated DC Blocking Voltage T_A = 125 °C	I_R	5 50		µA
Typical Junction Capacitance [1]	C_J	15		pF
Typical Thermal Resistance [2]	$R_{\theta JL}$	20		°C/W
Typical Thermal Resistance [3]	$R_{\theta JA}$	50		°C/W
Operating Temperature Range	T_j	- 55 to + 175		°C
Storage Temperature Range	T_{stg}	- 55 to + 175		°C

[1] Measured at 1 MHz and applied reverse voltage of 4 V D.C

[2] Thermal resistance from junction to lead, 6 mm^2 copper pads to each terminal.

[3] Thermal resistance from junction to ambient, 6 mm^2 copper pads to each terminal.

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

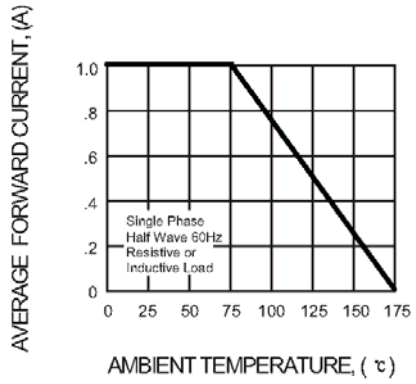


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

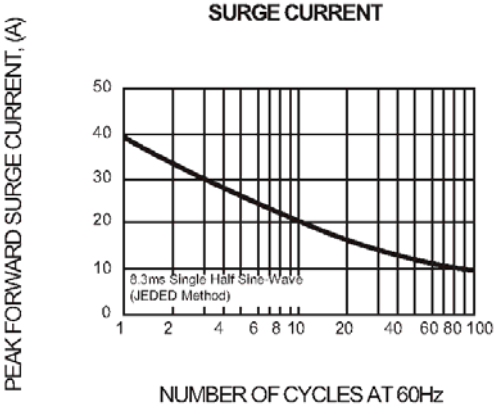


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

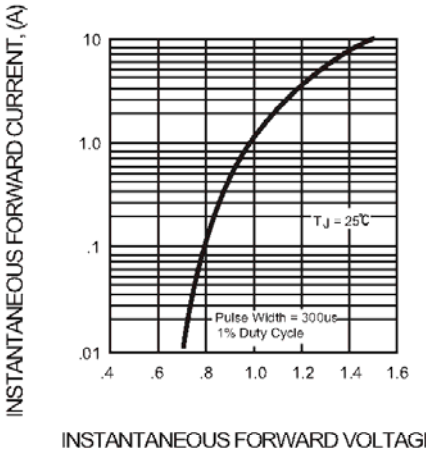


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

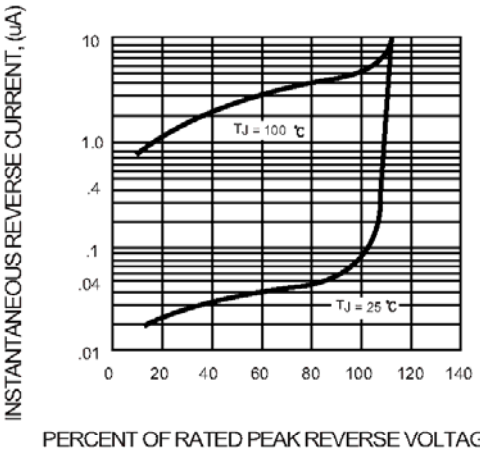


FIG. 5 - TYPICAL JUNCTION CAPACITANCE