

Schottky Barrier Rectifiers

Reverse Voltage 20 to 100V Forward Current 5.0A

FEATURES

- * Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- * Low power loss, high efficiency
- * For use in low voltage high frequency inverters, free wheeling, and polarity protection applications
- * Guardring for over voltage protection
- * High temperature soldering guaranteed: 260°C/10 seconds at terminals

Mechanical Data

Case: JEDEC SMA-FL

molded plastic over glass die

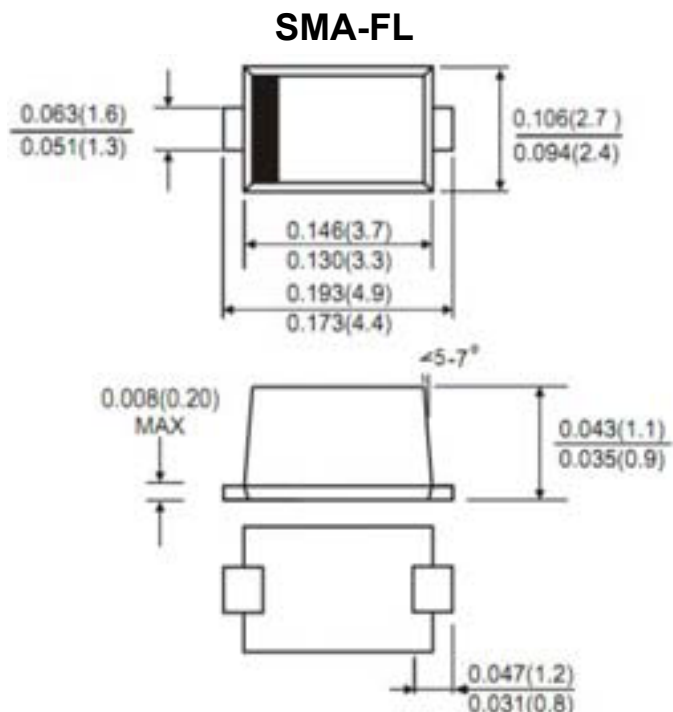
Terminals: Plated leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.0327 g

Handling precaution: None



1. Electrical Characteristic

Maximum & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter Symbol	symbol	SM520 AF	SM530 AF	SM540 AF	SM545 AF	SM550 AF	SM560 AF	SM580 AF	SM5100 AF	Unit	
device marking code		S52	S53	S54	S545	S55	S56	S58	S510		
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	45	50	60	80	100	V	
Maximum RSM voltage	V_{RSM}	14	21	28	31.5	35	42	56	70	V	
Maximum DC blocking voltage	V_{DC}	20	30	40	45	50	60	80	100	V	
Maximum average forward rectified current lead length (See fig. 1) at $T_C = 75^\circ\text{C}$	$I_{F(AV)}$	5.0								A	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	120								A	
Typical thermal resistance (Note 1)	$R_{\theta JA}$ $R_{\theta Jc}$						150 25				$^\circ\text{C/W}$
Operating junction and storage temperature range	T_J , T_{STG}	-40 to +150								$^\circ\text{C}$	

Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter Symbol	symbol	SM520 AF	SM530 AF	SM540 AF	SM545 AF	SM550 AF	SM560 AF	SM580 AF	SM5100 AF	Unit	
Maximum instantaneous forward voltage at 5.0A	V_F	0.50			0.70		0.85			V	
Maximum DC reverse current $T_A = 25^\circ\text{C}$ at rated DC blocking voltage $T_J = 100^\circ\text{C}$	I_R	0.5					30.0				mA
Typical junction capacitance at 4.0V, 1MHz	C_J	110								PF	

NOTES:

1. 8.0mm² (.013mm thick) land areas



2. Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

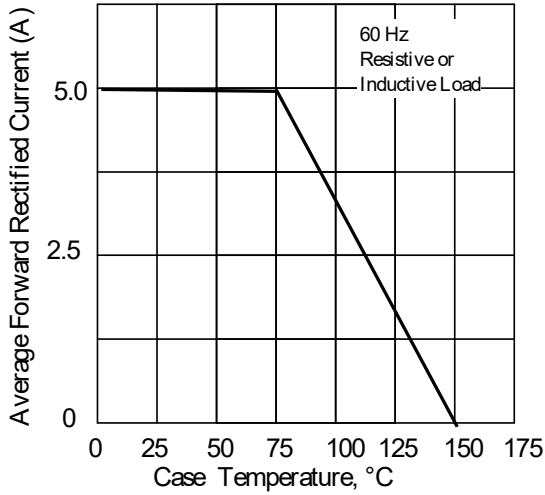


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

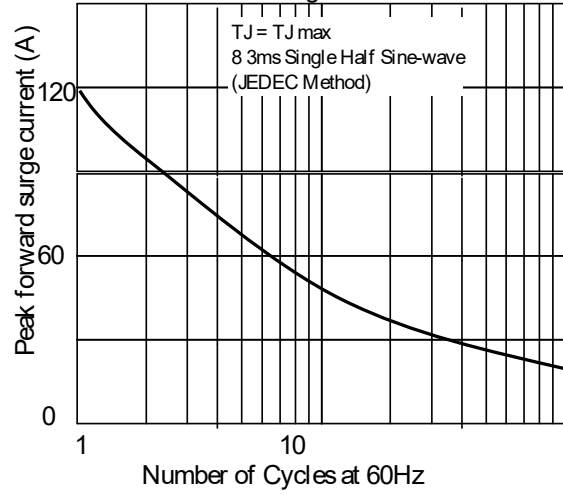


Fig. 3 - Typical Instantaneous Forward Characteristics

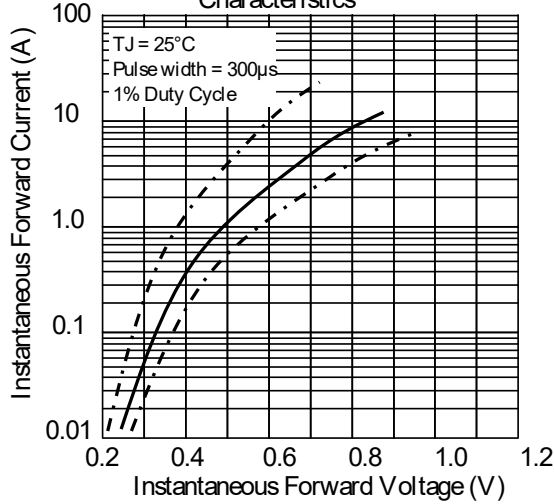


Fig. 4 - Typical Reverse Characteristics

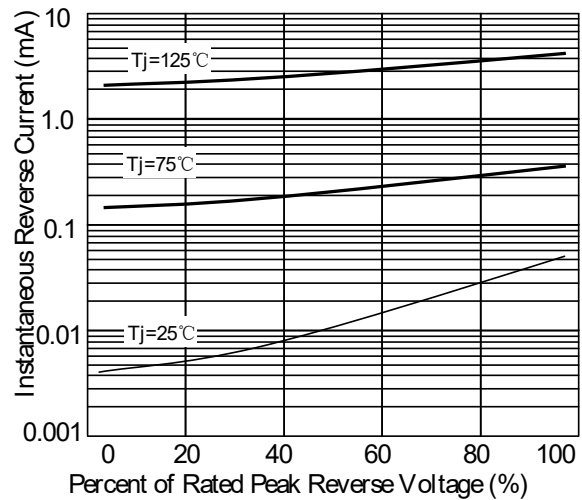


Fig. 5 - typical transient thermal impedance

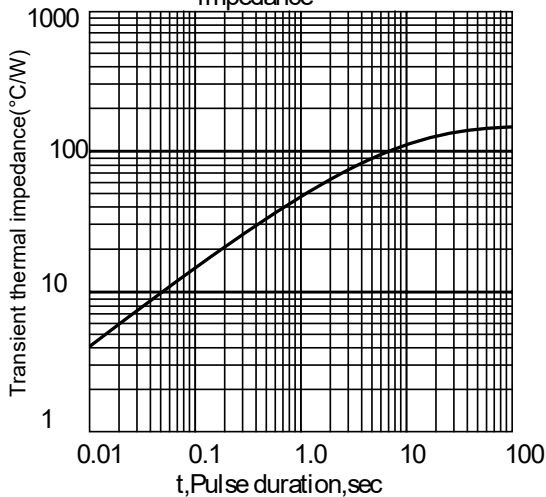


Fig. 6 - Typical Junction Capacitance

