

II. Schottky Rectifier

5.0A Surface Mount Schottky Rectifier S52AF~S520AF

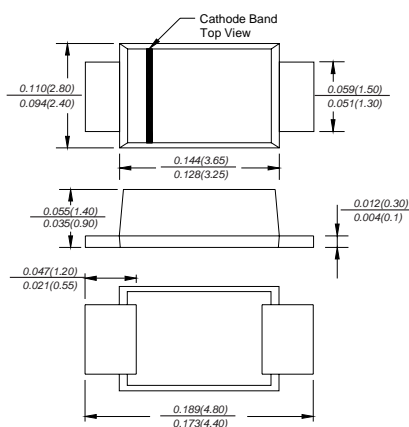
(Package: SMAF)

FEATURES

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency
- Built-in strain relief, ideal for automated placement
- High forward surge current capability
- High temperature soldering guaranteed : 260 /10 seconds at terminals

MECHANICAL DATA

- Case : JEDEC SMAF molded plastic body
- Terminals : Leads solderable per MIL-STD-750, Method 2026
- Polarity : Color band denotes cathode end
- Mounting Position : Any
- Weight : 0.038 grams



Case: SMAF
Dimensions in inches and (millimetres)

Ratings & Electrical Characteristics

Ratings at 25 ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Characteristics	Symbol	S52AF	S53AF	S54AF	S55AF	S56AF	S58AF	S510AF	S515AF	S520AF	Units	
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	80	100	150	200	Volts	
Maximum RMS voltage	V_{RMS}	14	21	28	35	42	56	70	105	150	Volts	
Maximum DC blocking voltage	V_{DC}	20	30	40	50	60	80	100	150	200	Volts	
Maximum average forward current at T_L (See Fig.1)	I_o	5.0									Amps	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150.0									Amps	
Maximum instantaneous forward voltage at 5.0A	V_F	0.55			0.70		0.85		0.95		Volts	
Maximum DC reverse current $T_a = 25$ at rated DC blocking voltage $T_a = 100$	I_R	0.5						0.2		mA		
		20.0			10.0		2.0					
Typical junction capacitance (Note 1)	C_j	200.0									PF	
Typical thermal resistance (Note 2)	R_{th-JA}	80.0									/w	
Operating junction temperature range	T_j	-55 to +125					-55 to +150					
Storage temperature range	T_{stg}	-55 to +150										

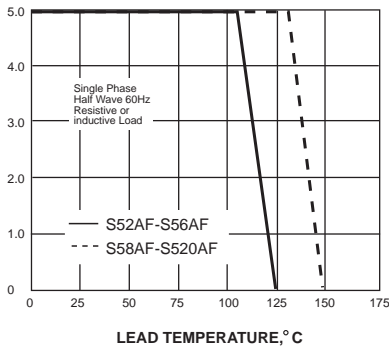
Notes:

1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. P.C.B. mounted with 0.2x0.2" (5.0x5.0mm) copper pad areas

Ratings and Characteristic Curves of S52AF~S520AF

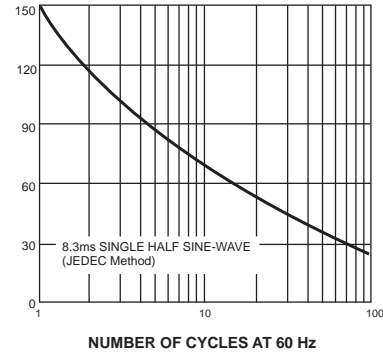
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



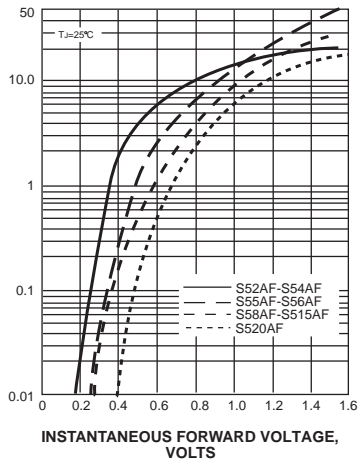
PEAK FORWARD SURGE CURRENT, AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



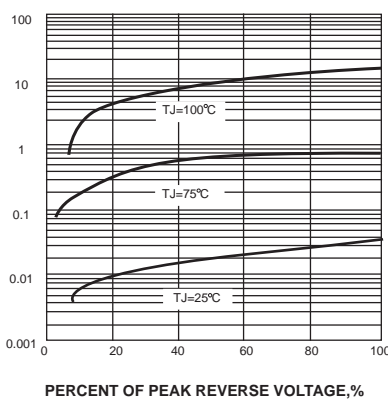
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



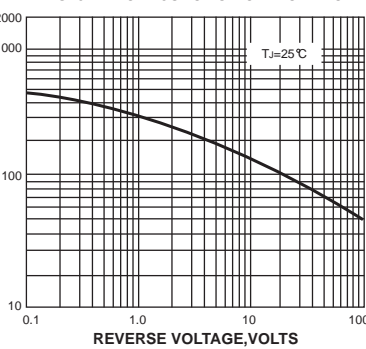
INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

