

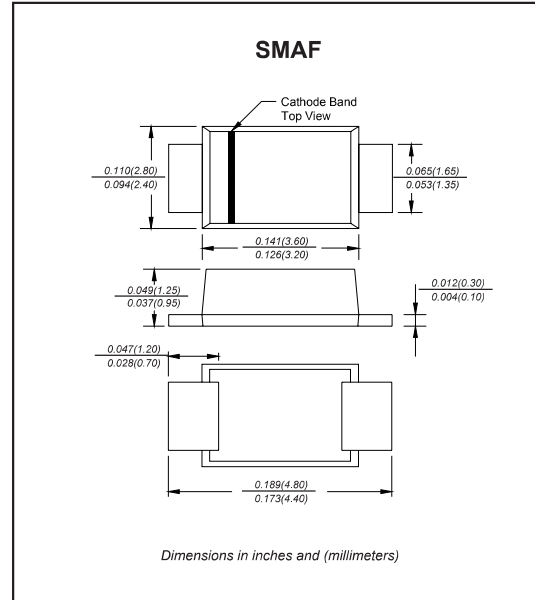
Features

- ◆ 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: 250°C/10 seconds at terminals
- ◆ Compliant to RoHS Directive 2011/65/EU
- ◆ Compliant to Halogen-free
- ◆ Suffix "-Q1" for AEC-Q101

Mechanical data

- ◆ **Case:** JEDEC SMAF molded plastic body
- ◆ **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
- ◆ **Polarity:** Color band denotes cathode end
- ◆ **Mounting Position:** Any

Package outline



Maximum ratings and Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	I_O			3.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			80	A
Reverse current	$T_A = 25^\circ\text{C}$	$V_R = 20\text{V} - 60\text{V}$			0.5	mA
		$V_R = 80\text{V} - 200\text{V}$			0.1	
Reverse current	$T_A = 100^\circ\text{C}$	$V_R = 20\text{V} - 60\text{V}$			10	mA
		$V_R = 80\text{V} - 200\text{V}$			5	
Thermal resistance (1)	Junction to Ambient		$R_{\theta JA}$	78		$^\circ\text{C/W}$
	Junction to Case		$R_{\theta JC}$	18		
	Junction to Lead		$R_{\theta JL}$	20		
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage		C_J	500		pF
Storage temperature		T_{STG}	-65		+150	$^\circ\text{C}$

Note: (1) Device mounted on p.c.b. with 10 mm x 20 mm x 0.1 mm copper pad area.

SYMBOLS	V _{RRM} ^{*1} (V)	V _{RMS} ^{*2} (V)	V _R ^{*3} (V)	V _F ^{*4} (V)	Operating temperature T _J , (°C)
SS32-F-Q1	20	14	20	0.55	-55 to +150
SS34-F-Q1	40	28	40		
SS345-F-Q1	45	32	45		
SS35-F-Q1	50	35	50	0.70	
SS36-F-Q1	60	42	60		
SS38-F-Q1	80	56	80		
SS310-F-Q1	100	70	100	0.85	
SS315-F-Q1	150	105	150		
SS320-F-Q1	200	140	200		

*1 Repetitive peak reverse voltage

*2 RMS voltage

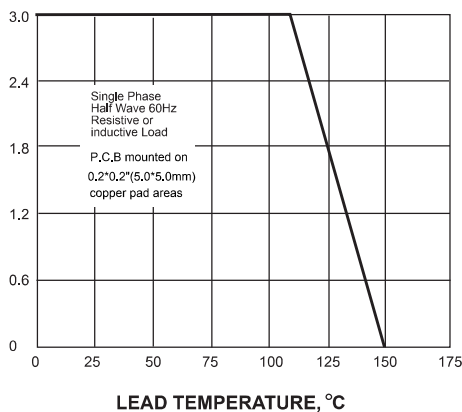
*3 Continuous reverse voltage

*4 Maximum forward voltage@ $I_F=3.0\text{A}$

Rating and characteristic curves

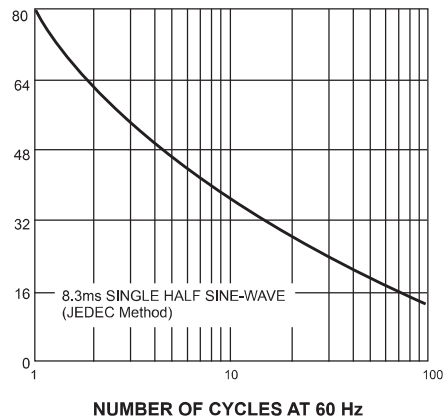
AVERAGE FORWARD RECTIFIED CURRENT,
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



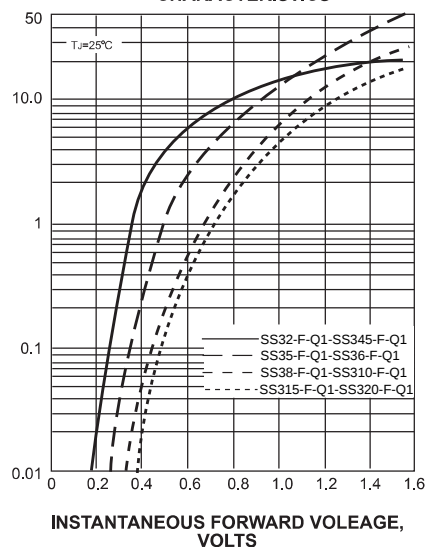
PEAK FORWARD SURGE CURRENT,
AMPERES

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



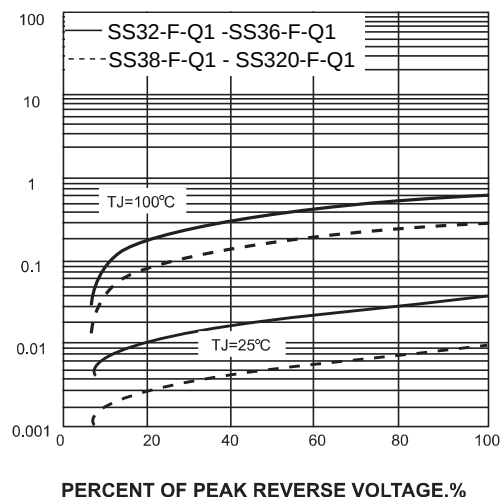
INSTANTANEOUS FORWARD CURRENT,AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



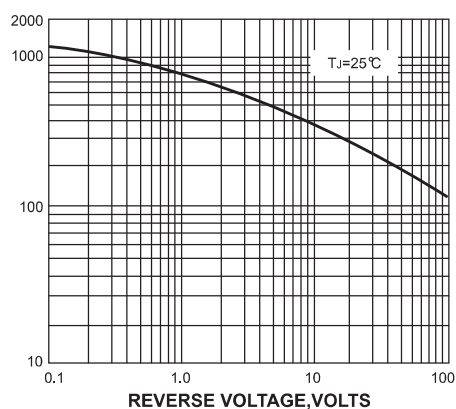
INSTANTANEOUS REVERSE CURRENT,
MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



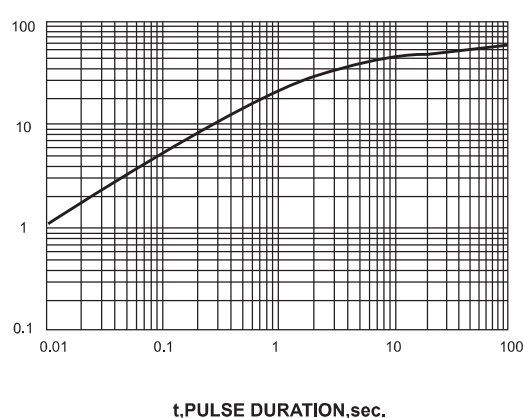
JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE

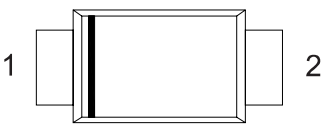


TRANSIENT THERMAL IMPEDANCE,
°C/W

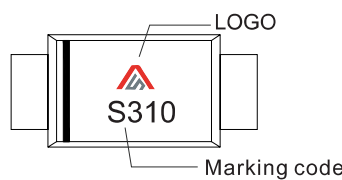
FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



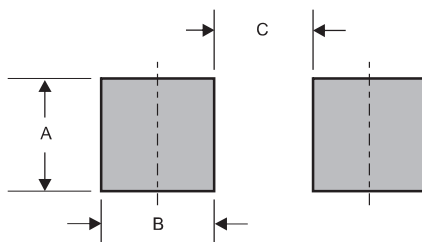
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Marking

Type number	Marking code	Example
SS32-F-Q1	S32	
SS34-F-Q1	S34	
SS345-F-Q1	S345	
SS35-F-Q1	S35	
SS36-F-Q1	S36	
SS38-F-Q1	S38	
SS310-F-Q1	S310	
SS315-F-Q1	S315	
SS320-F-Q1	S320	

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SMAF	0.110 (2.80)	0.063 (1.60)	0.087 (2.20)