

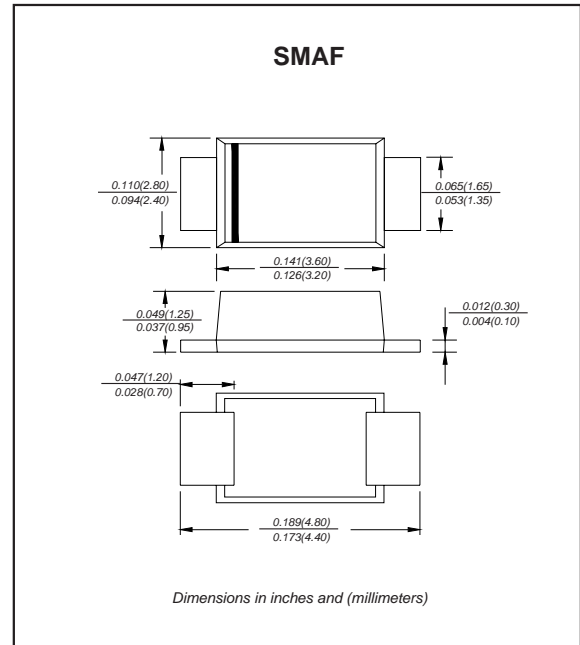
### Features

- ▶ 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°C/10 seconds at terminals
- ▶ Compliant to RoHS 2.0
- ▶ Compliant to Halogen-free

### 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)

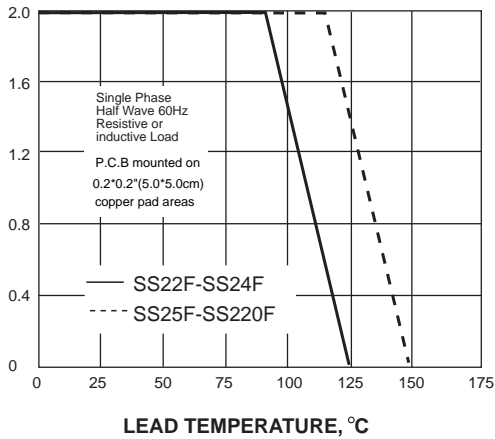
PARAMETER	SYMBOLS	SS22F	SS23F	SS24F	SS25F	SS26F	SS28F	SS210F	SS215F	SS220F	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	20	30	40	50	60	80	100	150	200	V
Maximum RMS voltage	$V_{RMS}$	14	21	28	35	42	56	70	105	140	V
Maximum DC blocking voltage	$V_{DC}$	20	30	40	50	60	80	100	150	200	V
Maximum average forward rectified current at $T_L$ (see fig.1)	$I_{AV}$	2.0									A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	50.0									A
Maximum instantaneous forward voltage at 3.0A	$V_F$	0.55			0.70		0.85		0.95		V
Maximum DC reverse current at rated DC blocking voltage	$I_R$				0.5		0.1				mA
					30.0		8.0		5.0		
Typical junction capacitance (NOTE 1)	$C_J$	160									pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	70									$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	-55 to +125			-55 to +150						$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-55 to +150									$^\circ\text{C}$

**Note:**1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
2. P.C.B. mounted with 2.0x2.0" (5.0x5.0cm) copper pad areas

### Rating and characteristic curves

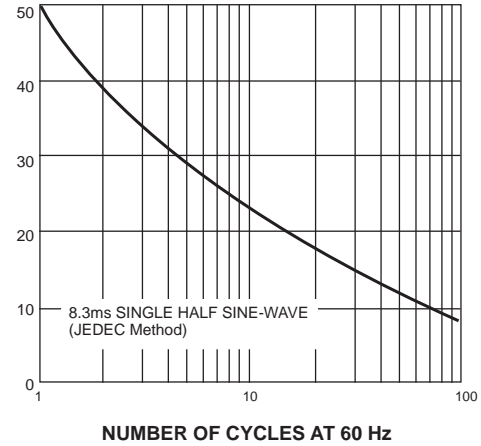
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



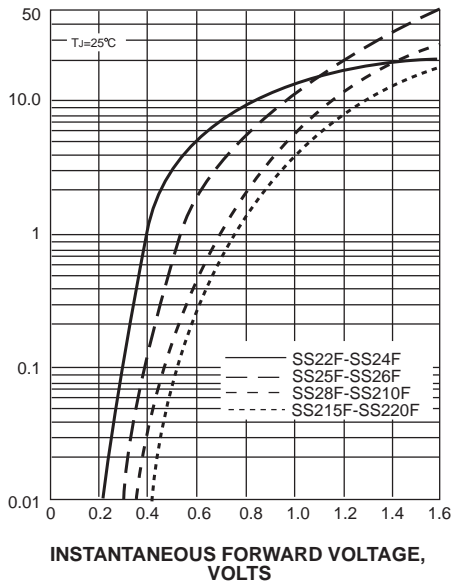
PEAK FORWARD SURGE CURRENT, AMPERES

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



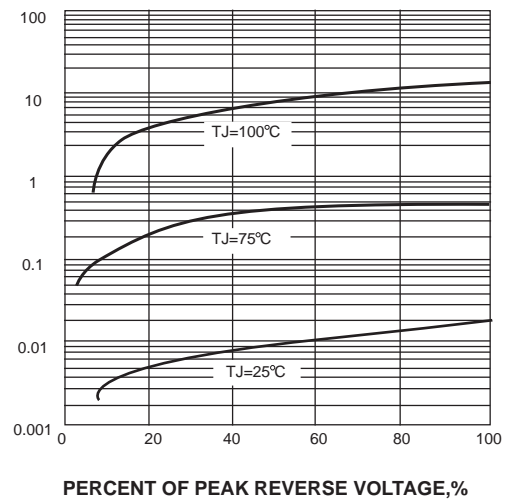
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



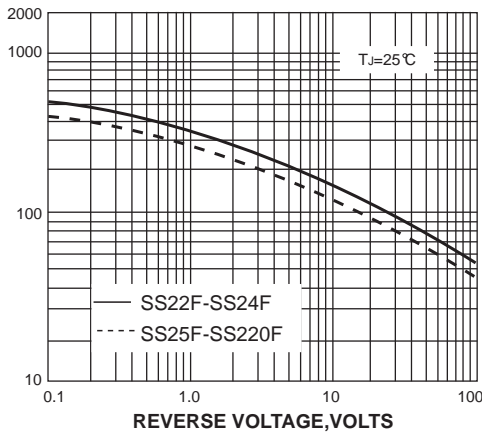
INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



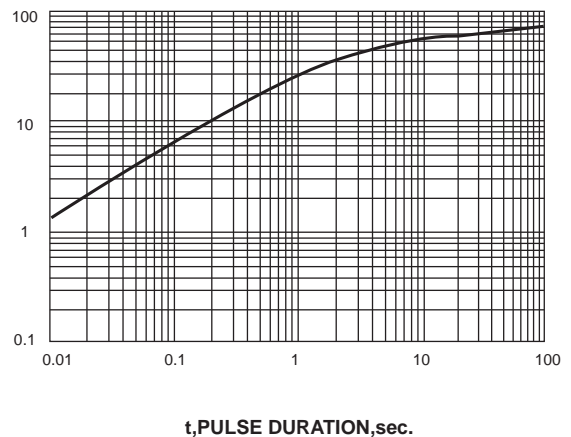
JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE





TRANSIENT THERMAL IMPEDANCE, °C/W

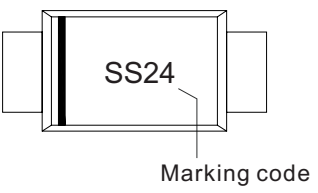
FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



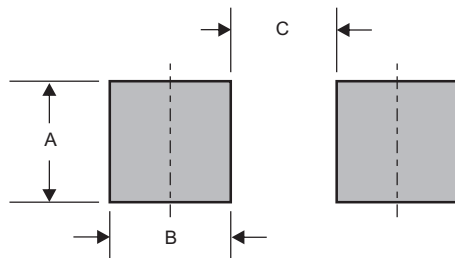
## Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

## Marking

Type number	Marking code	Example
SS22F	SS22	
SS23F	SS23	
SS24F	SS24	
SS25F	SS25	
SS26F	SS26	
SS28F	SS28	
SS210F	SS210	
SS215F	SS215	
SS220F	SS220	

## 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)

**Suggested thermal profiles for soldering processes**

- 1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
- 2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(TL to TP)	<3°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(ts)	150°C 200°C 60~120sec
Tsmax to TL -Ramp-upRate	<3°C/sec
Time maintained above: -Temperature(TL) -Time(tL)	217°C 60~260sec
Peak Temperature(TP)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(tp)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes