



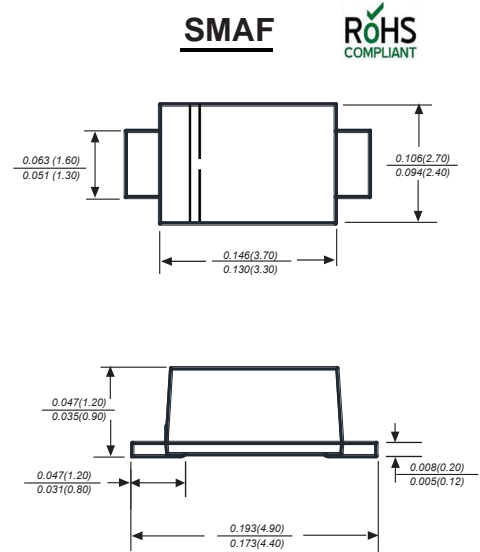
# SS12F THRU SS1200F

Reverse Voltage - 20 to 200 Volts Forward Current - 1.0 Ampere

## SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

### 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



Dimensions in inches and (millimeters)

### Mechanical Data

Case: JEDEC SMAF molded plastic body  
 Terminals: Solderable per MIL-STD-750, Method 2026  
 Polarity: Color band denotes cathode end  
 Mounting Position: Any  
 Weight: 0.0018 ounce, 0.064 grams

### Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

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

Parameter	SYMBOLS	SS12F	SS13F	SS14F	SS15F	SS16F	SS18F	SS110F	SS1150F	SS1200F	UNITS	
		MDD SS12F	MDD SS13F	MDD SS14F	MDD SS15F	MDD SS16F	MDD SS18F	MDD SS110F	MDD SS1150F	MDD SS1200F		
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 TL (see fig.1)	$I_{(AV)}$	1.0									A	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30									A	
Maximum instantaneous forward voltage at 1.0A	$V_F$	0.55			0.70		0.85		0.95		V	
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=125^\circ\text{C}$	$I_R$	0.5						0.2			mA	
		10.0				5.0		2.0				
Typical junction capacitance (NOTE 1)	$C_J$	110			90						pF	
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	88.0									°C/W	
Operating junction temperature range	$T_J$	-50 to +125					-50 to +150					°C
Storage temperature range	$T_{STG}$	-50 to +150									°C	

Note: 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



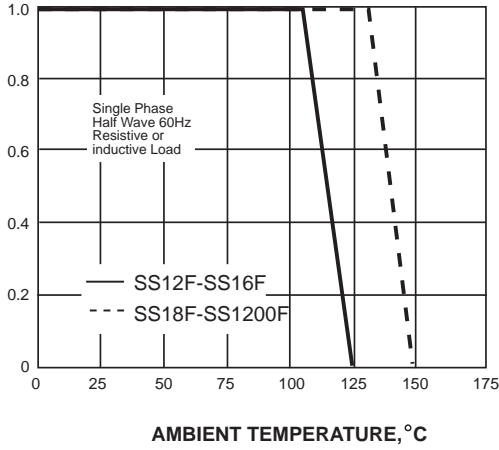
# SS12F THRU SS1200F

Reverse Voltage - 20 to 200 Volts Forward Current - 1.0 Ampere

## Typical Characteristics

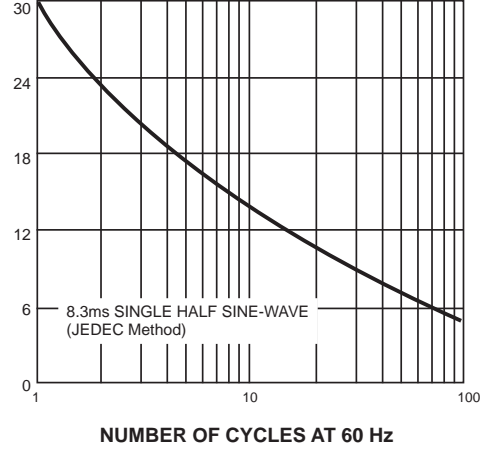
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



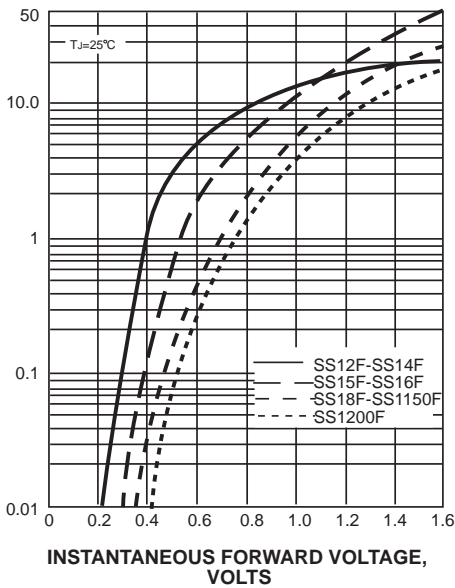
PEAK FORWARD SURGE CURRENT, AMPERES

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



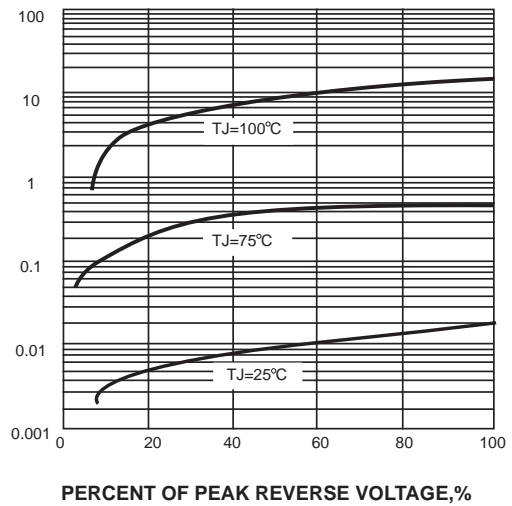
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



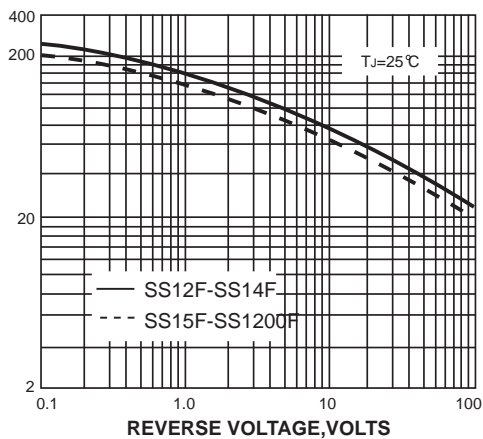
INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



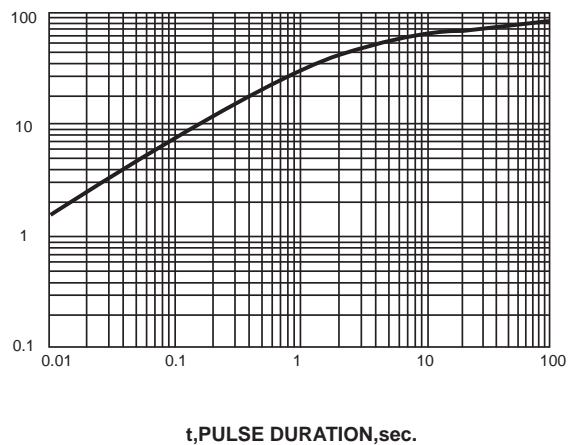
JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



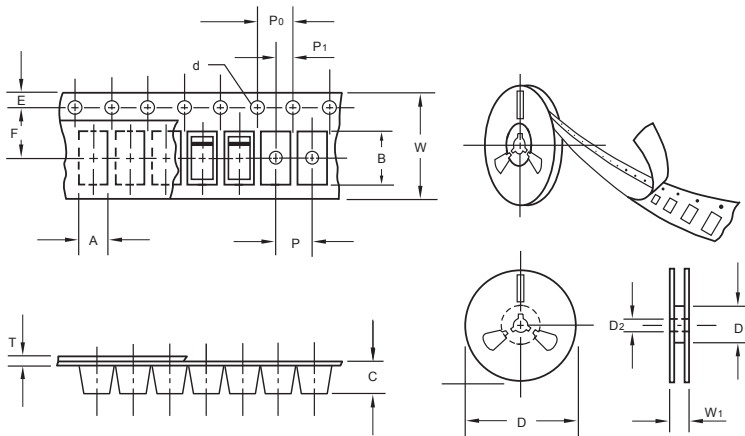
The curve above is for reference only.



# SS12F THRU SS1200F

Reverse Voltage - 20 to 200 Volts Forward Current - 1.0 Ampere

## Packing information



unit:mm

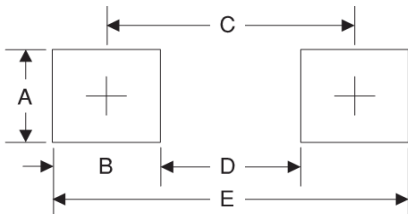
Item	Symbol	Tolerance	SMAF
Carrier width	A	0.1	2.80
Carrier length	B	0.1	4.75
Carrier depth	C	0.1	1.42
Sprocket hole	d	0.05	1.50
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D1	min	54.40
Feed hole diameter	D2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	5.05
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.1	2.00
Overall tape thickness	T	0.1	0.30
Tape width	W	0.3	8.00
Reel width	W1	1.0	12.30

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

## Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SMAF	7"	3,000	4.0	6,000	210*208*203	178	400*265*400	120,000	10.0

## Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	1.8	0.071
B	1.6	0.063
C	3.8	0.150
D	2.2	0.087
E	5.4	0.213

## Important Notice and Disclaimer

Microdiode Electronics (Jiangsu) reserves the right to make changes to this document and its products and specifications at any time without notice. Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.

Microdiode Electronics (Jiangsu) makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Microdiode Electronics (Jiangsu) assume any liability for application assistance or customer product design. Microdiode Electronics (Jiangsu) does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.

No license is granted by implication or otherwise under any intellectual property rights of Microdiode Electronics (Jiangsu).

Microdiode Electronics (Jiangsu) products are not authorized for use as critical components in life support devices or systems without express written approval of Microdiode Electronics (Jiangsu).