

M1F THRU M7F



General Purpose Rectifiers

Reverse Voltage: 50 to 1000 Volts

Forward Current: 1.0 Ampere

RoHS Device

Halogen Free



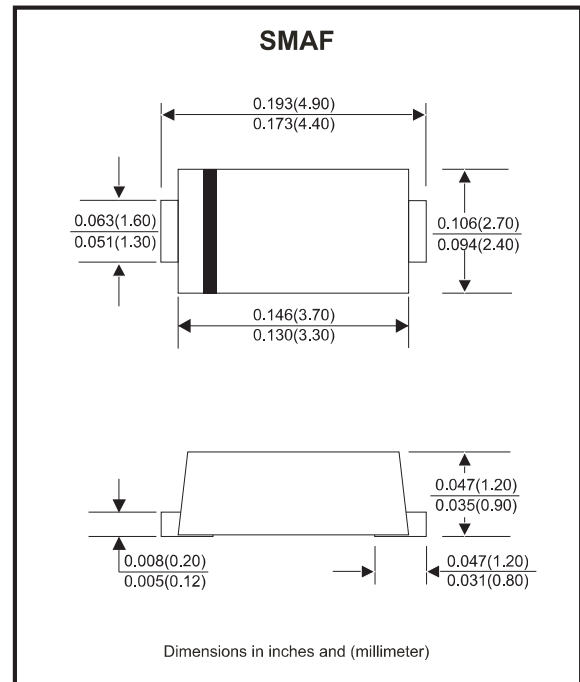
Features

- For surface mounted applications
- Low reverse leakage current
- Low forward voltage drop
- High surge capacity
- Meet UL flammability classification 94V-0

Mechanical data

- Case: JEDEC SMAF molded plastic
- Polarity: Color band denotes cathode
- Mounting position: Any

Circuit diagram



Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Parameter	Symbols	M1F	M2F	M3F	M4F	M5F	M6F	M7F	Units
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current	$I_{F(AV)}$	1.0							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	30							A
Max instantaneous forward voltage at 1.0A	V_F	1.1							V
Maximum DC reverse current $T_a = 25^{\circ}C$ at rated DC blocking voltage $T_a = 100^{\circ}C$	I_R	5.0 50							μA
Typical junction capacitance (Note 1)	C_j	15							pF
Typical thermal resistance (Note 2)	$R_{\theta JA}$	88							$^{\circ}C/W$
Operating and storage temperature range	T_j, T_{stg}	-55 ~ +150							$^{\circ}C$

Notes: 1. P.C.B mounted with 0.2x0.2" (5.0x5.0mm) copper pad areas.

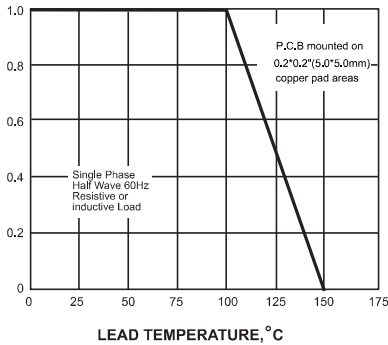
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Rating and Characteristic Curves

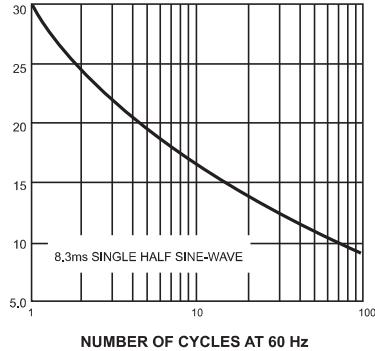
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



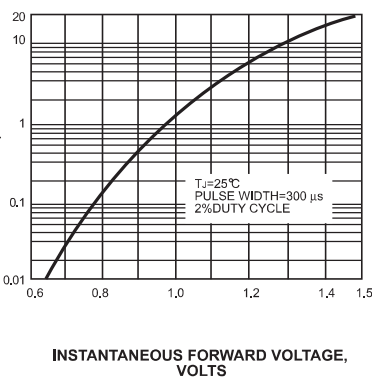
PEAK FORWARD SURGE CURRENT, AMPERES

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



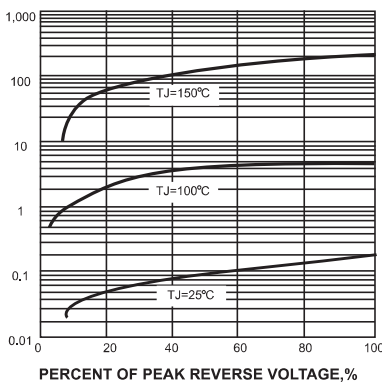
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



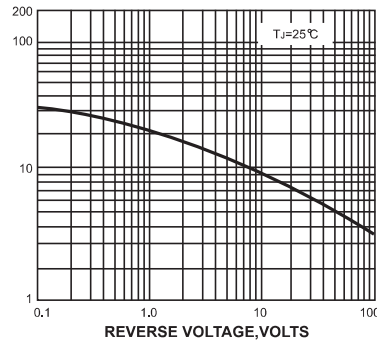
INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



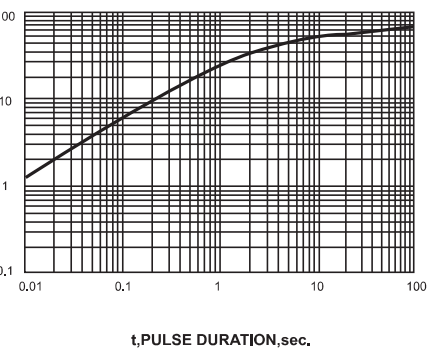
JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



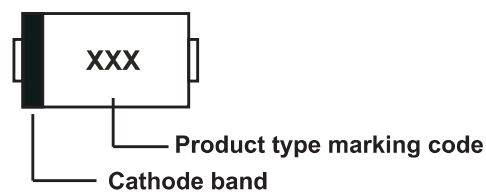
TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



Marking Code

Part Number	Marking code
M1F	M1F
M2F	M2F
M3F	M3F
M4F	M4F
M5F	M5F
M6F	M6F
M7F	M7F

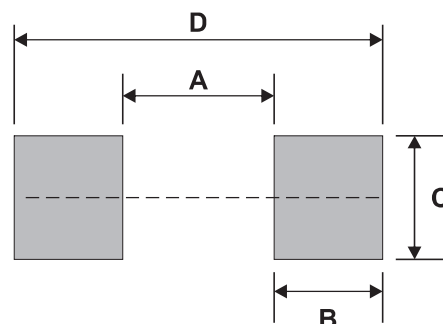


xxx = Product type marking code

Suggested PAD Layout

SIZE	SMAF	
	(mm)	(inch)
A	2.20	0.087
B	1.60	0.063
C	1.80	0.071
D	5.40	0.213

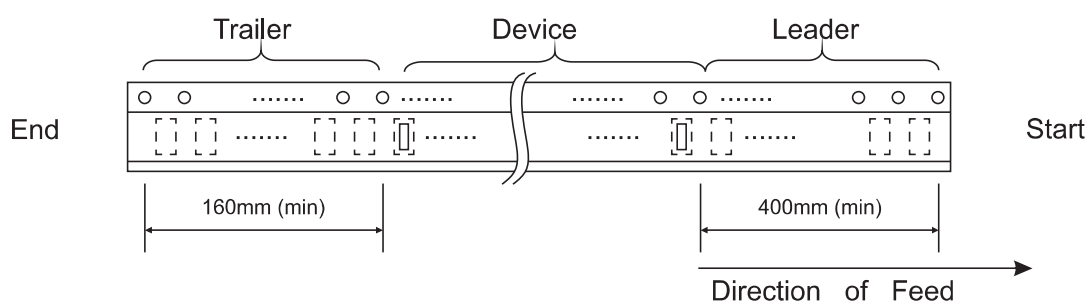
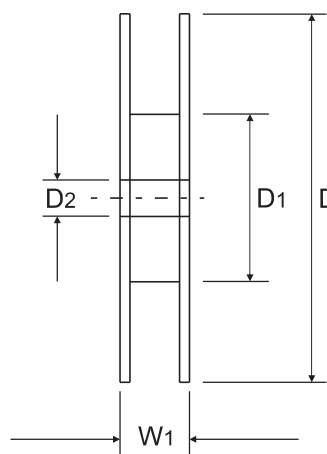
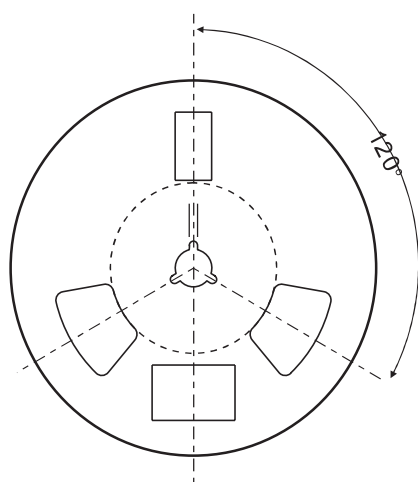
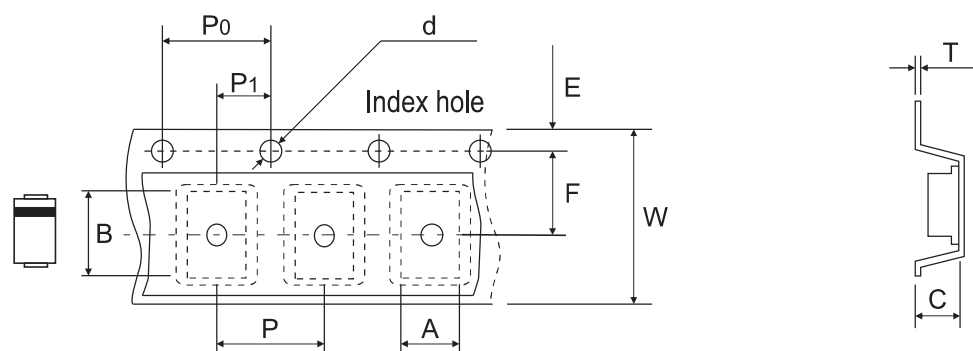
Note: 1. The pad layout is for reference purpose only.



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SMAF	10,000	13

Reel Taping Specification



SMAF	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	2.93 ± 0.10	5.33 ± 0.10	1.33 ± 0.10	1.55 ± 0.05	330 ± 2.00	75.00 ± 1.00	13.00 ± 0.20
	(inch)	0.115 ± 0.004	0.210 ± 0.004	0.052 ± 0.004	0.061 ± 0.002	12.992 ± 0.079	2.953 ± 0.039	0.512 ± 0.008

SMAF	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.73 ± 0.10	5.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.20 ± 0.03	12.00 ± 0.30	$14.70 + 2.00 - 1.00$
	(inch)	0.068 ± 0.004	0.217 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.008 ± 0.001	0.472 ± 0.012	$0.579 + 0.079 - 0.039$

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