

■ FEATURES

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

■ TYPICAL APPLICATIONS

For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes for consumer, and telecommunication.

■ MECHANICAL DATA

- **Package:** SMAF
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

■ MAXIMUM RATINGS (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	M1F	M2F	M3F	M4F	M5F	M6F	M7F
Device marking code			M1F	M2F	M3F	M4F	M5F	M6F	M7F
Maximum Repetitive Peak Reverse Voltage	VRRM	V	50	100	200	400	600	800	1000
Maximum RMS Voltage	VRMS	V	35	70	140	280	420	560	700
Maximum DC blocking Voltage	VDC	V	50	100	200	400	600	800	1000
Average rectified output current @60Hz sine wave, resistance load, TL (Fig.1)	I _O	A	1.0						
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, T _j =25°C	I _{FSM}	A	30						
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, T _j =25°C			60						
Current squared time @1ms ≤ t ≤ 8.3ms T _j =25°C. Rating of per diode	I ² t	A ² s	3.735						
Typical junction capacitance @Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	C _j	pF	6						
Storage temperature	T _{stg}	°C	-55 ~ +150						
Junction temperature	T _j	°C	-55 ~ +150						

■ ELECTRICAL CHARACTERISTICS (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	M1F	M2F	M3F	M4F	M5F	M6F	M7F
Maximum instantaneous forward voltage drop per diode	V _F	V	I _{FM} =1.0A	1.1						
Maximum DC reverse current at rated DC blocking voltage per diode	I _R	μA	T _j =25°C	5.0						
			T _j =125°C	100						

■ **THERMAL CHARACTERISTICS** ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	M1F	M2F	M3F	M4F	M5F	M6F	M7F
Typical Thermal resistance	$R_{\theta J-A}^{(1)}$	$^{\circ}\text{C}/\text{W}$	70						
	$R_{\theta J-L}^{(1)}$		25						
	$R_{\theta J-C}^{(1)}$		20						

Note:
(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

FIG.1: I_o -TL Curve

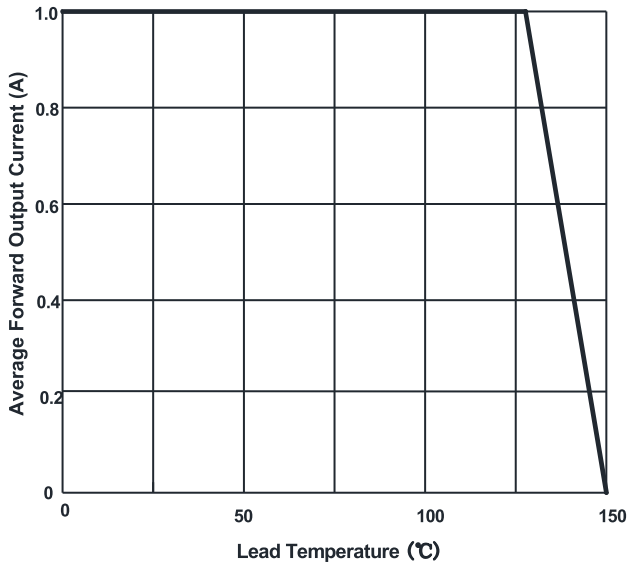


FIG.2: Forward Surge Current Capability

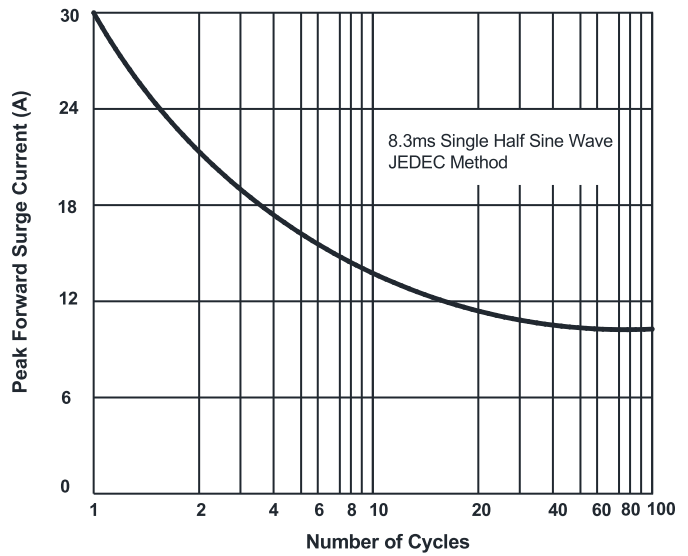


FIG.3: Typical Forward Voltage

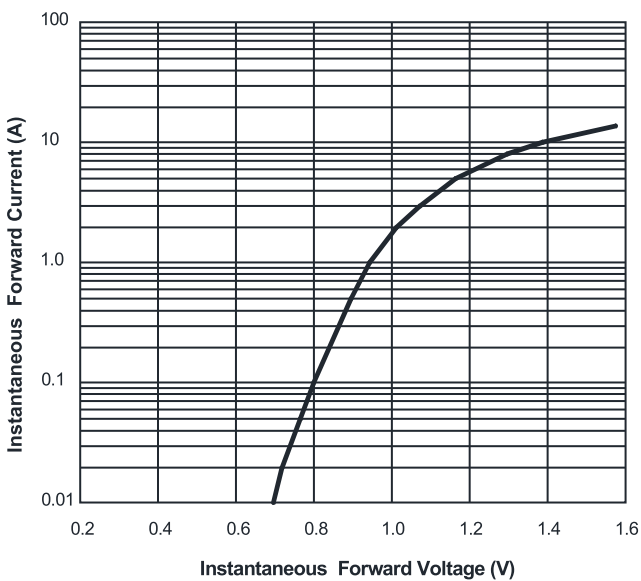
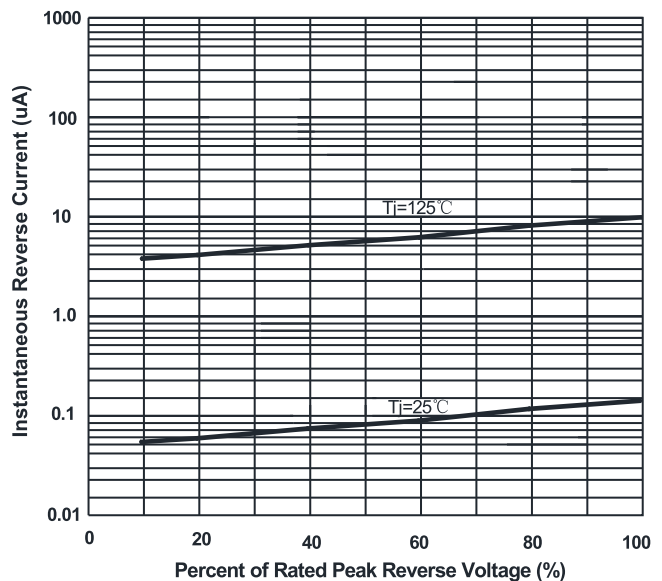


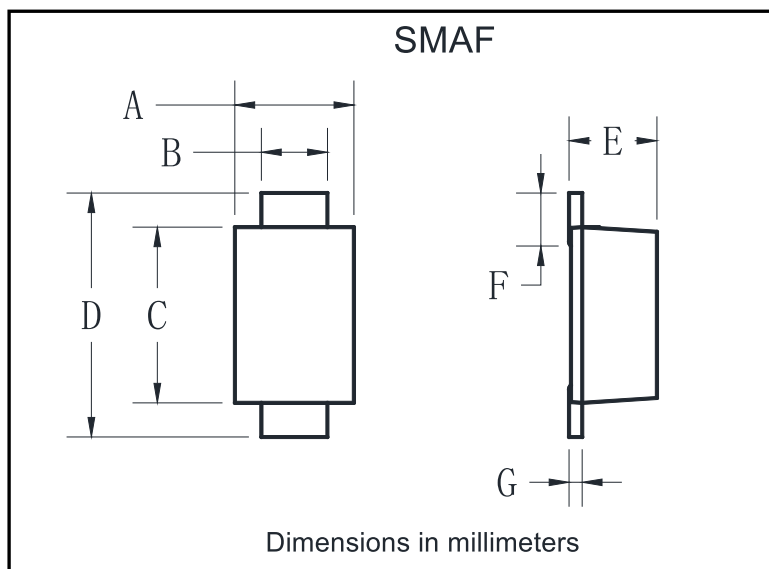
FIG.4: Typical Reverse Characteristics



PACKAGING INFORMATION

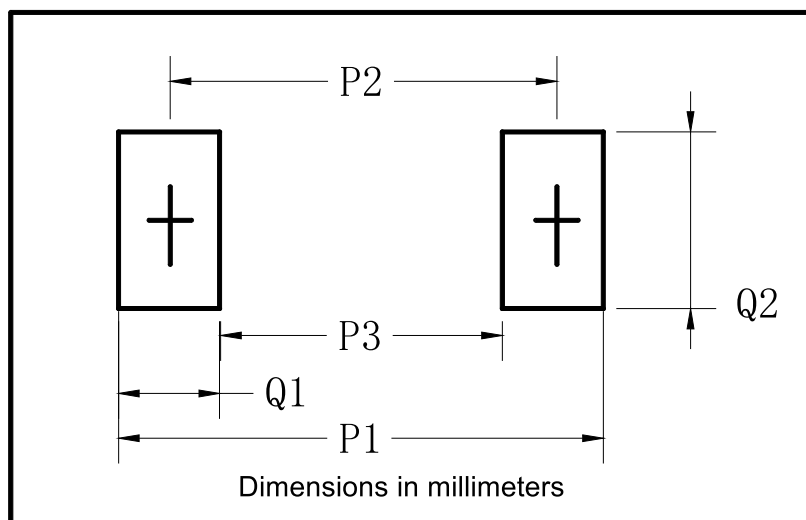
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
M1F-M7F	F1	Approximate 0.034	3000	24000	96000	7" reel
M1F-M7F	F2	Approximate 0.034	10000	20000	160000	13" reel
M1F-M7F	F3	Approximate 0.034	10000	20000	120000	13" reel
M1F-M7F	F4	Approximate 0.034	7500	15000	120000	13" reel

OUTLINE DIMENSIONS



SMAF		
Dim	Min	Max
A	2.40	2.80
B	1.35	1.45
C	3.40	3.60
D	4.40	4.80
E	1.05	1.25
F	0.50	1.00
G	0.15	0.22

SUGGESTED PAD LAYOUT



SMAF	
Dim	Millimeters
P1	6.50
P2	4.00
P3	1.50
Q1	2.50
Q2	1.70