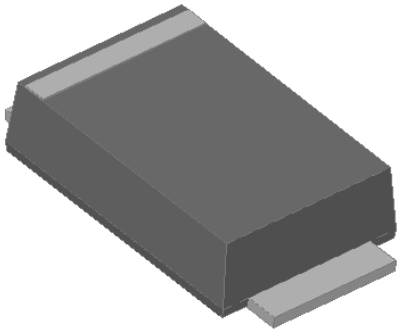
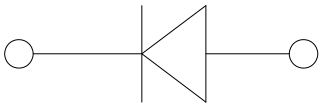
Surface Mount Super Fast Recovery Rectifier





Features

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

Typical Applications

For use in high frequency 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℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	E1AF	E1BF	E1CF	E1DF	E1FF	E1GF	E1HF	E1JF	E1KF
Device marking code			E1AF	E1BF	E1CF	E1DF	E1FF	E1GF	E1HF	E1JF	E1KF
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	50	100	150	200	300	400	500	600	800
Maximum RMS Voltage	V_{RMS}	V	35	70	105	140	210	280	350	420	560
Maximum DC blocking Voltage	V_{DC}	V	50	100	150	200	300	400	500	600	800
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, Tj=25℃	I_{FSM}	A	30								
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25℃			60								
Current squared time @1ms≤t≤8.3ms Tj=25℃	I^2t	A^2s	3.735								
Storage temperature	T_{stg}	℃	-55 ~ +150								
Junction temperature	T_j	℃	-55 ~ +150								

■Electrical Characteristics（T_a=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	E1AF	E1BF	E1CF	E1DF	E1FF	E1GF	E1HF	E1JF	E1KF
Maximum instantaneous forward voltage	V_F	V	I_{FM}=1.0A	1.0				1.3		1.7		1.85
Maximum reverse recovery time	t_{rr}	ns	I_F=0.5A,I_R=1.0A, I_{rr}=0.25A	35								
Maximum DC reverse current at rated DC blocking voltage	IR	μA	T_j=25℃	5.0								
			T_j=125℃	100								
Typical junction capacitance	Cj	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	18				12		8		10

■Thermal Characteristics （T_a=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	E1AF	E1BF	E1CF	E1DF	E1FF	E1GF	E1HF	E1JF	E1KF
Typical Thermal resistance	$R_{\theta J-A}$(1)	℃/W	60								
	$R_{\theta J-L}$(1)		20								
	$R_{\theta J-C}$(1)		18								

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

■ Characteristics (Typical)

FIG.1: Io-TL Curve

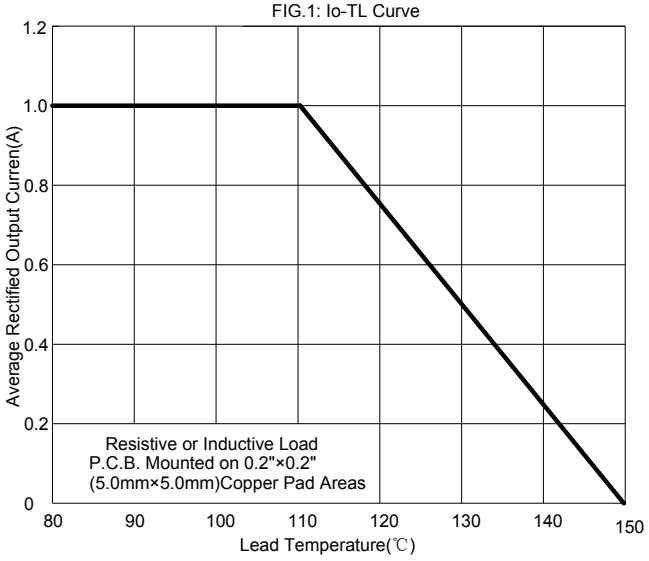


FIG2:Surge Forward Current Capability

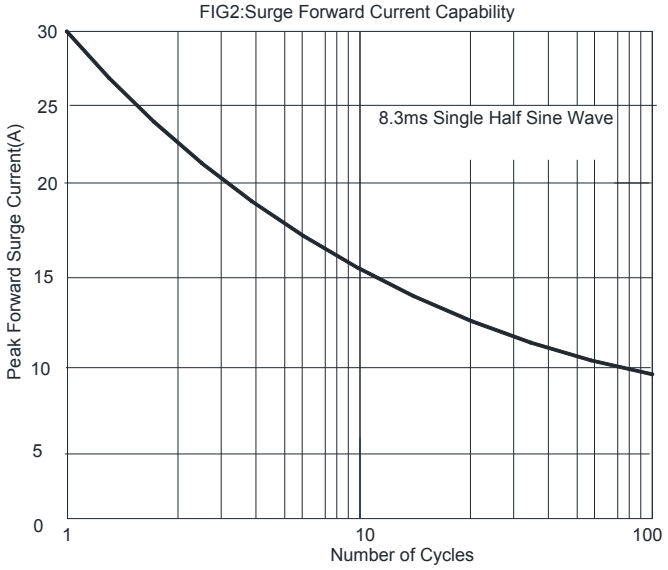


FIG3: Typical Forward Voltage

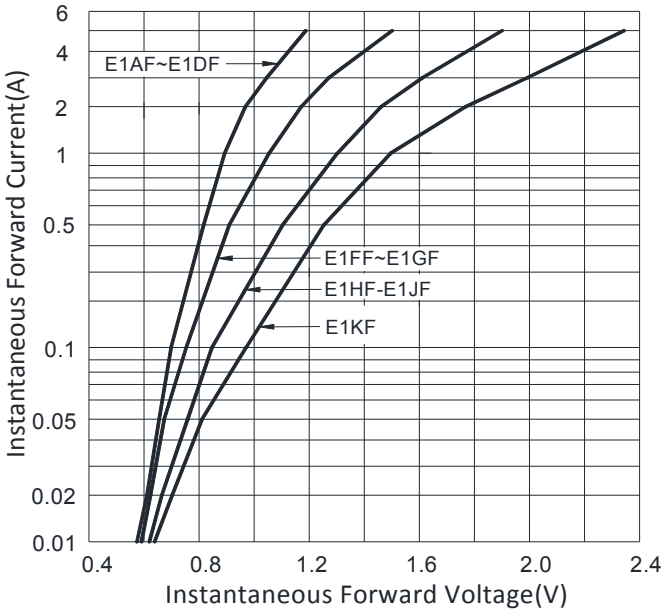


FIG4:Typical Reverse Characteristics

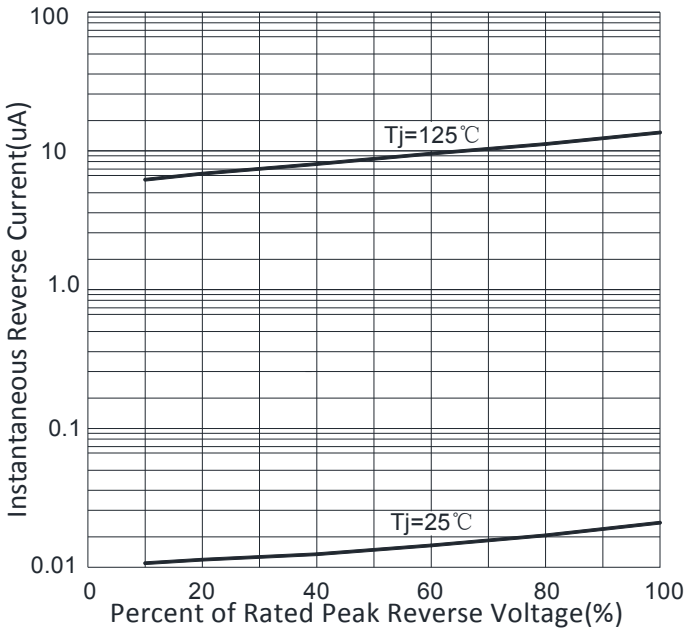
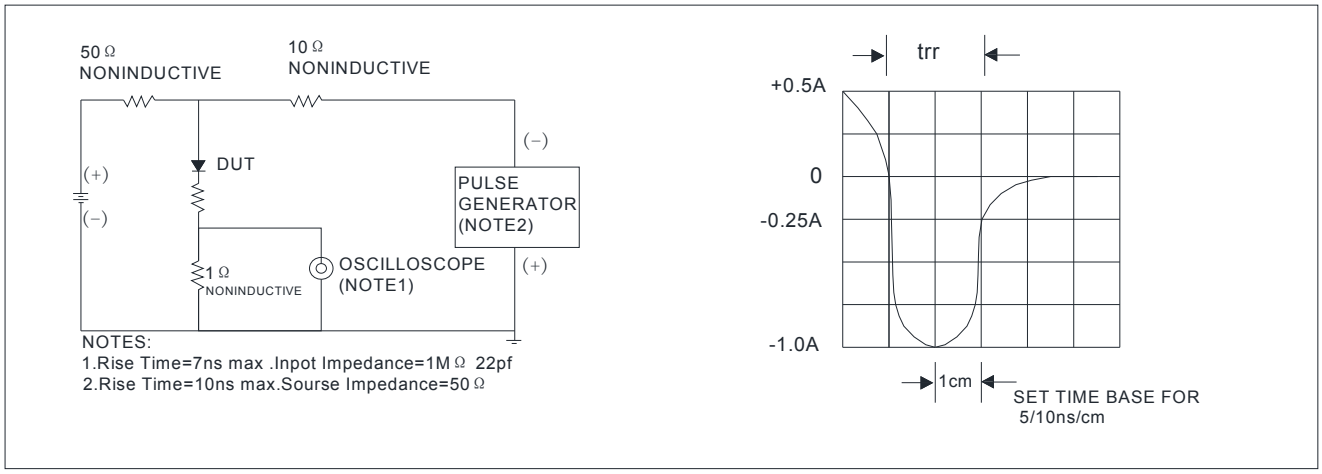


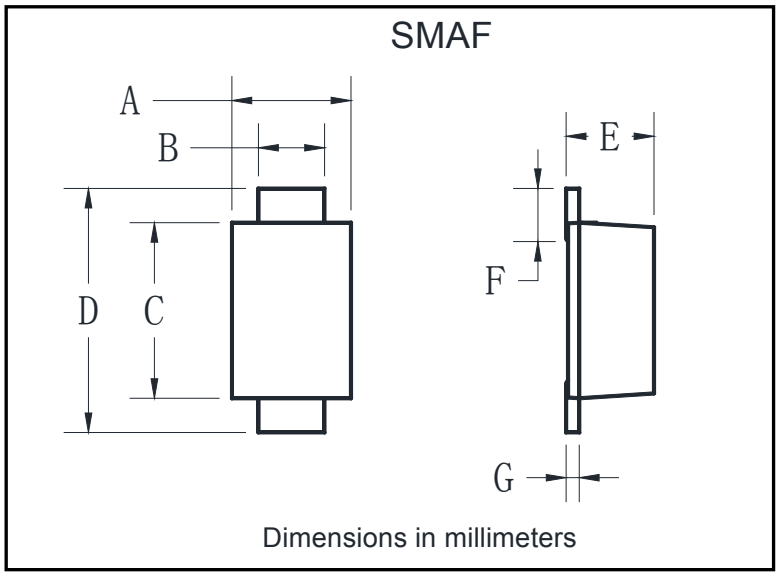
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



■**Ordering Information** (Example)

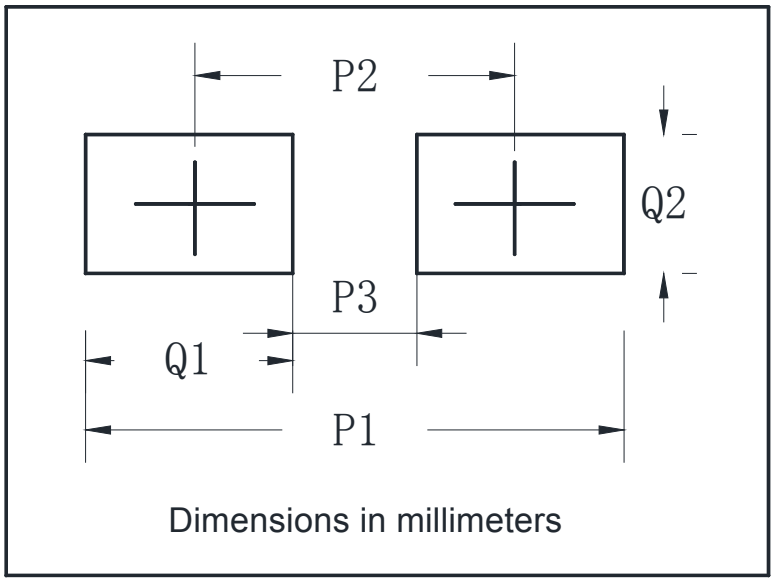
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
E1AF-E1KF	F1	Approximate 0.034	3000	24000	96000	7” reel
E1AF-E1KF	F2	Approximate 0.034	10000	/	160000	13” reel
E1AF-E1KF	F3	Approximate 0.034	10000	/	120000	13” reel
E1AF-E1KF	F4	Approximate 0.034	7500	/	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

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