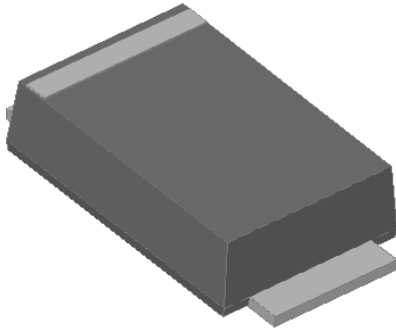


Surface Mount Super Fast Recovery Rectifier

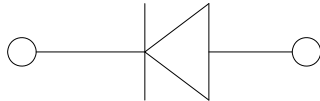


Features

- 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°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	E1AFS	E1BFS	E1CFS	E1DFS	E1FFS	E1GFS	E1HFS	E1JFS
Device marking code			E1AFS	E1BFS	E1CFS	E1DFS	E1FFS	E1GFS	E1HFS	E1JFS
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	V	50	100	150	200	300	400	500	600
Maximum RMS Voltage	V _{RMS}	V	35	70	105	140	210	280	350	420
Maximum DC blocking Voltage	V _{DC}	V	50	100	150	200	300	400	500	600
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℃	I _{FSM}	A	30							
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, T _j =25℃			60							
Current squared time @1ms≤t≤8.3ms T _j =25℃, 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	15				10		7	
Storage temperature	T _{stg}	℃	-55 ~ +150							
Junction temperature	T _j	℃	-55 ~ +150							

■Electrical Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	E1AFS	E1BFS	E1CFS	E1DFS	E1FFS	E1GFS	E1HFS	E1JFS
Maximum instantaneous forward voltage drop per diode	V _F	V	I _{FM} =1.0A	1.0				1.3		1.7	
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 per diode	I _R	μA	T _j =25°C	5.0							
			T _j =125°C	100							



E1AFS THRU E1JFS

■ Thermal Characteristics ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	E1AFS	E1BFS	E1CFS	E1DFS	E1FFS	E1GFS	E1HFS	E1JFS
Typical thermal resistance	R θ J-A	$^{\circ}\text{C}/\text{W}$	65 ⁽¹⁾							
	R θ J-L		25 ⁽¹⁾							
	R θ J-C		20 ⁽¹⁾							

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)

FIG1: I_o -TL Curve

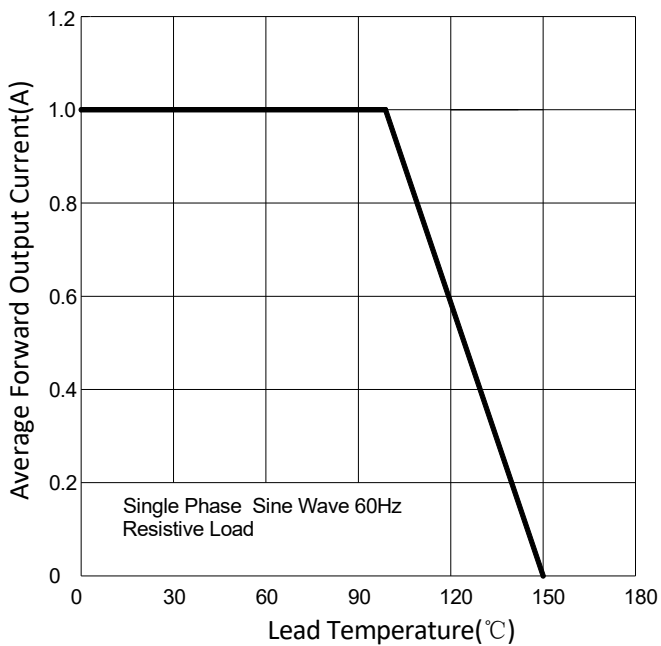


FIG2: Surge Forward Current Capability

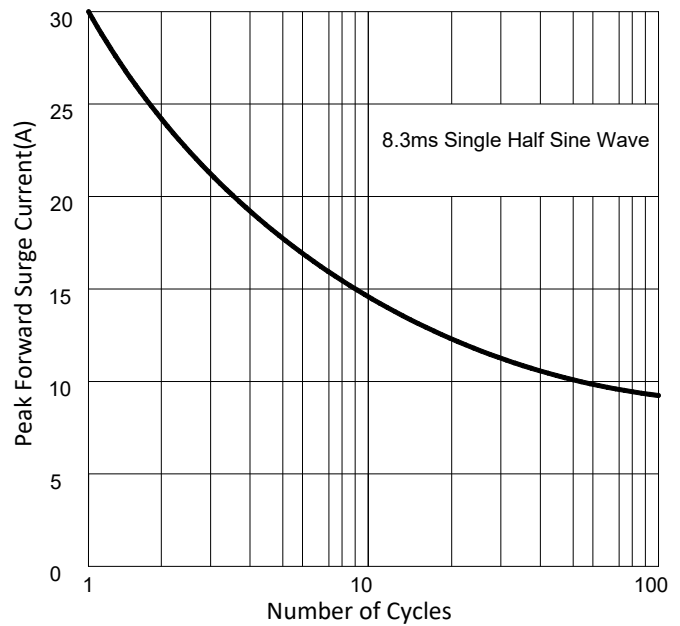


FIG3: Typical Forward Voltage

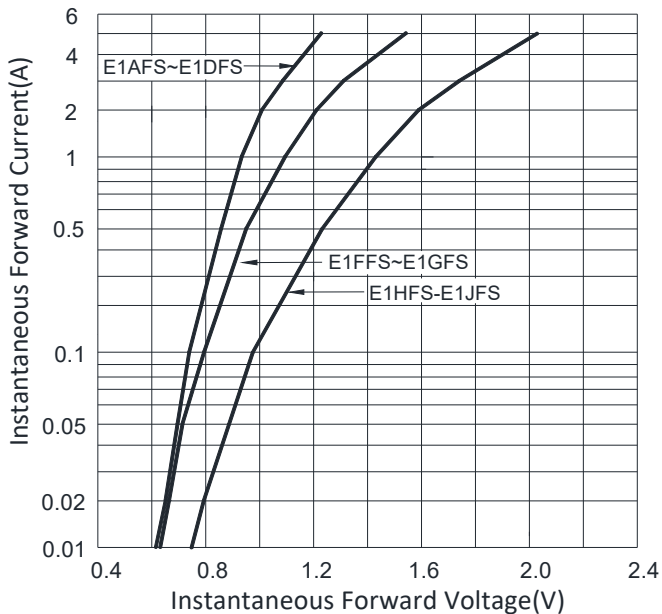
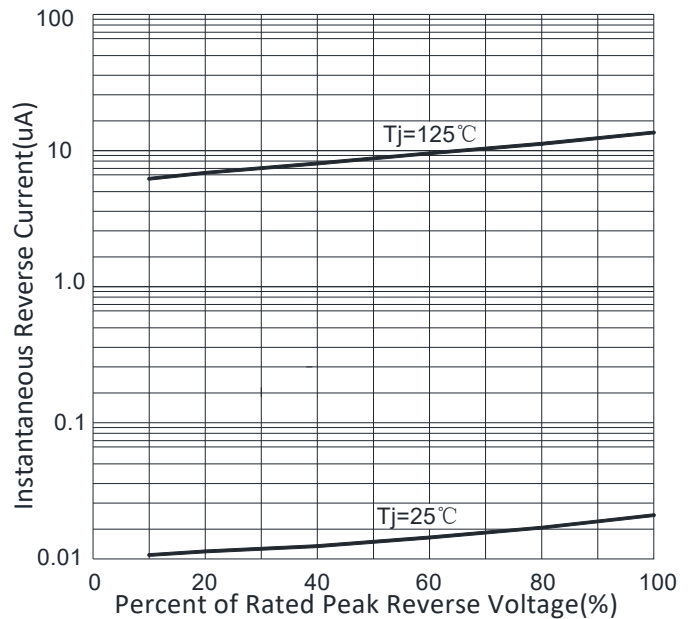


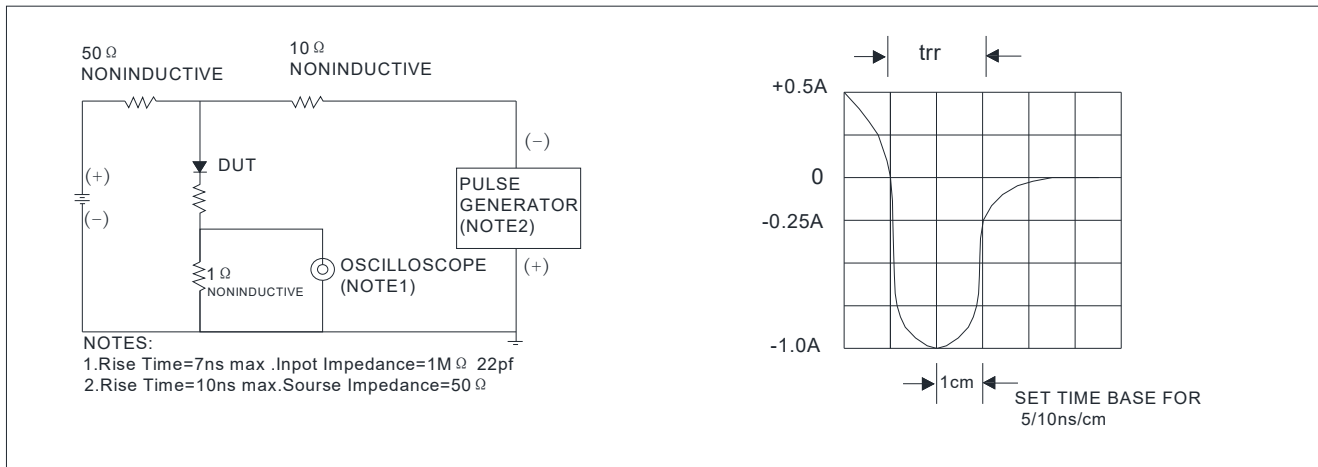
FIG4: Typical Reverse Characteristics





E1AFS THRU E1JFS

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



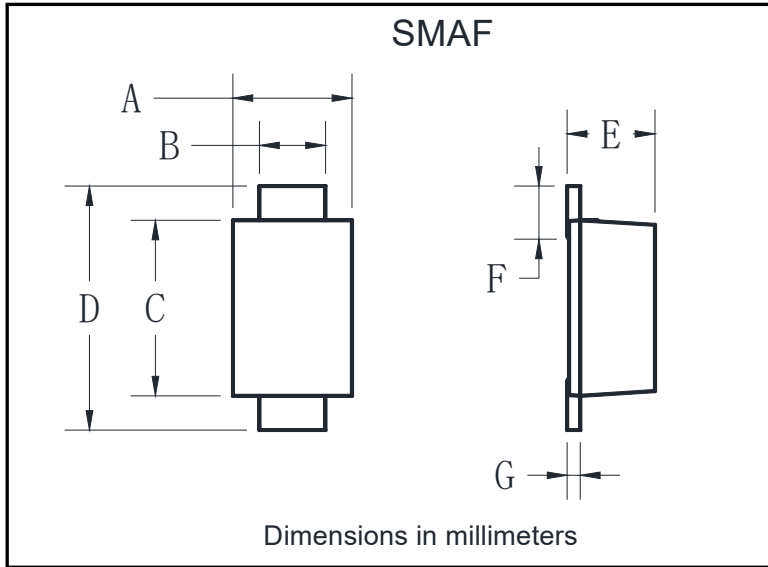
■Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
E1AFS-E1JFS	F1	Approximate 0.034	3000	24000	96000	7" reel
E1AFS-E1JFS	F2	Approximate 0.034	10000	20000	160000	13" reel
E1AFS-E1JFS	F3	Approximate 0.034	10000	20000	120000	13" reel
E1AFS-E1JFS	F4	Approximate 0.034	7500	15000	120000	13" reel



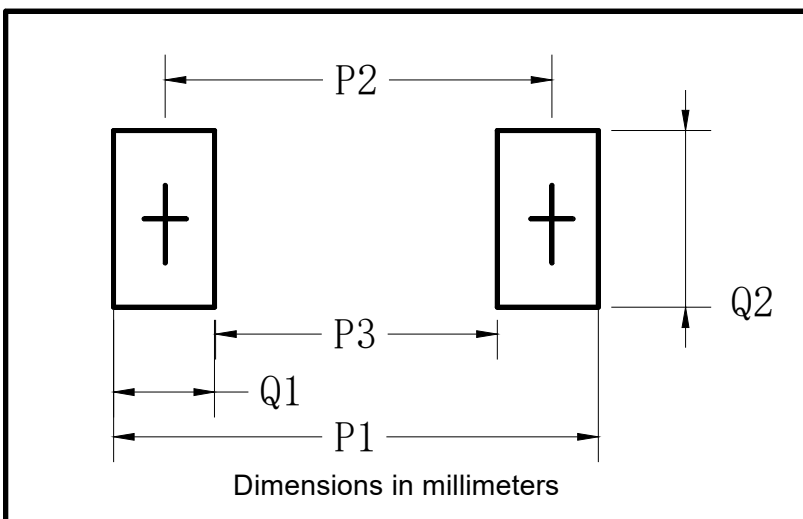
E1AFS THRU E1JFS

■ 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



E1AFS THRU E1JFS

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The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

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