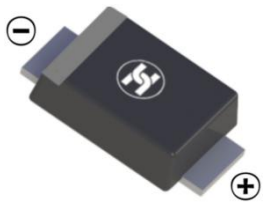
SUPER FAST RECOVERY RECTIFIER DIODE

FEATURES

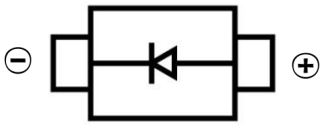
- Low Reverse voltage leakage current
- Glass passivated junction
- High forward surge current capability
- Low forward voltage drop
- Super Fast Recovery Time for High Efficiency
- Surface Mount device



SMAF

MECHANICAL DATA

- Case: SMAF
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.027 grams (approximate)



MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Parameter	symbol	ES1AF	ES1BF	ES1CF	ES1DF	ES1EF	ES1GF	ES1JF	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	600	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	600	V
Maximum RMS voltage	V_{RMS}	35	70	105	210	210	280	420	V
Maximum average forward rectified current	$I_{F(AV)}$	1.0							A
Non-Repetitive Peak Forward Surge Current @t=8.3ms	I_{FSM}	30							A
Thermal Resistance From Junction To Ambient	$R\theta J_A$	80							°C/W
Reverse Recovery Time(@IF=0.5A, IR=1A, IRR=0.25A)	trr	30							nS
Operating junction temperature range	T_J	–55 to +150							°C
Storage temperature range	T_{STG}	–55 to +150							°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Parameter	symbol	ES1AF	ES1BF	ES1CF	ES1DF	ES1EF	ES1GF	ES1JF	Unit
Maximum instantaneous forward voltage at 1.0A	V_F	1.00				1.25		1.68	V
Maximum DC reverse current TA = 25°C at rated DC blocking voltage TA = 125°C	IR	5 100							μA
Typical junction capacitance at 4.0V, 1MHz	CD	15							PF

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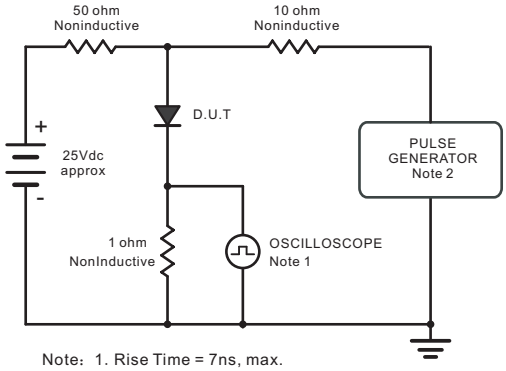
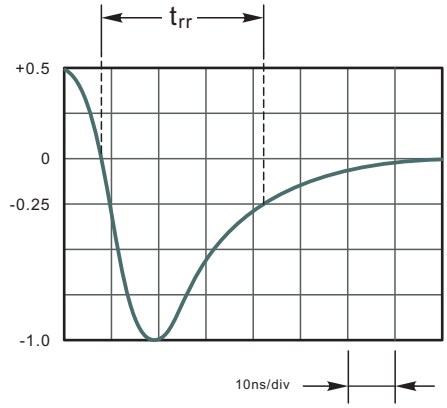
Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



Note: 1. Rise Time = 7ns, max.
Input Impedance = 1megohm,22pF.
2. Ries Time =10ns, max.
Source Impedance = 50 ohms.



Set time Base for 10ns/div

Fig.2 Maximum Average Forward Current Rating

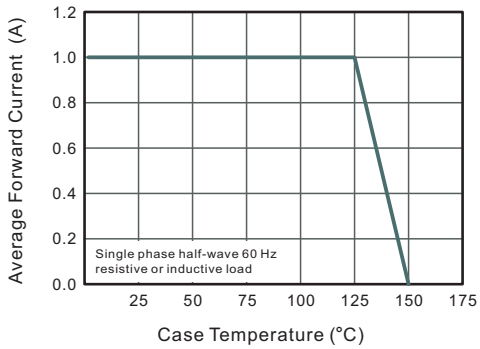


Fig.3 Typical Reverse Characteristics

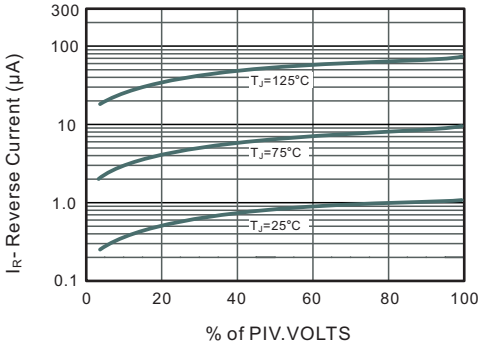


Fig.4 Typical Forward Characteristics

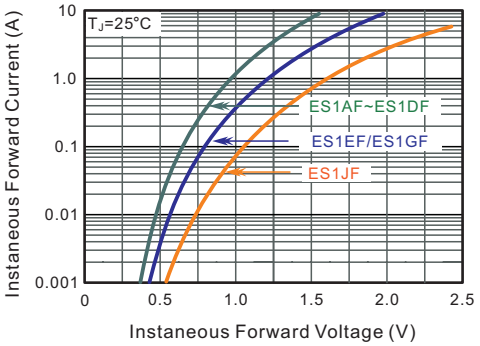


Fig.5 Typical Junction Capacitance

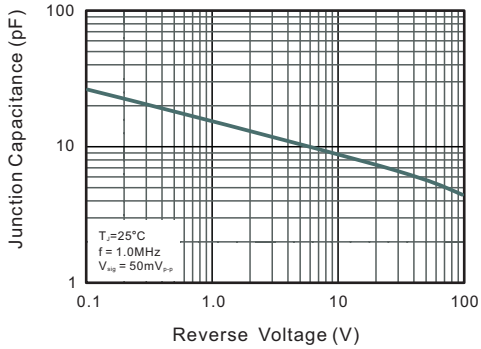
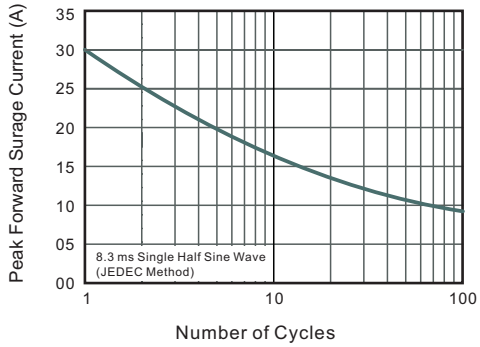


Fig.6 Maximum Non-Repetitive Peak Forward Surage Current



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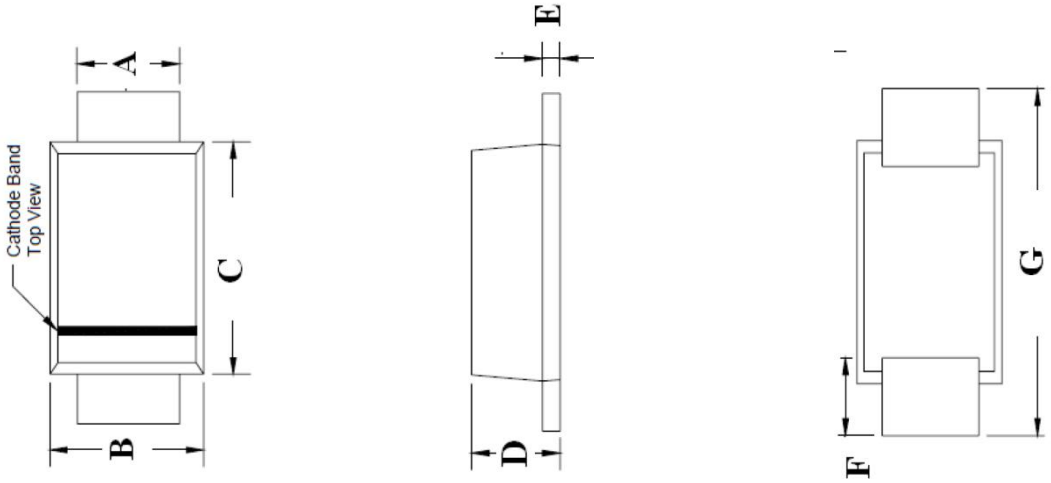
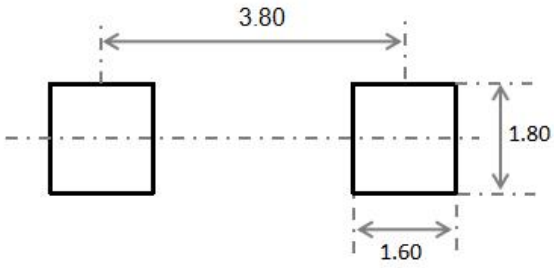
SMAF Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.30	1.60	0.051	0.063
B	2.40	2.80	0.094	0.110
C	3.25	3.65	0.128	0.144
D	1.10	1.40	0.043	0.055
E	0.15	0.25	0.006	0.010
F	0.70	1.20	0.028	0.047
G	4.40	4.90	0.173	0.193

SMAF Suggested Pad Layout



Note:

1.Controlling dimension: in millimeters

2.General tolerance: ±0.05mm

3.The pad layout is for reference purposes only

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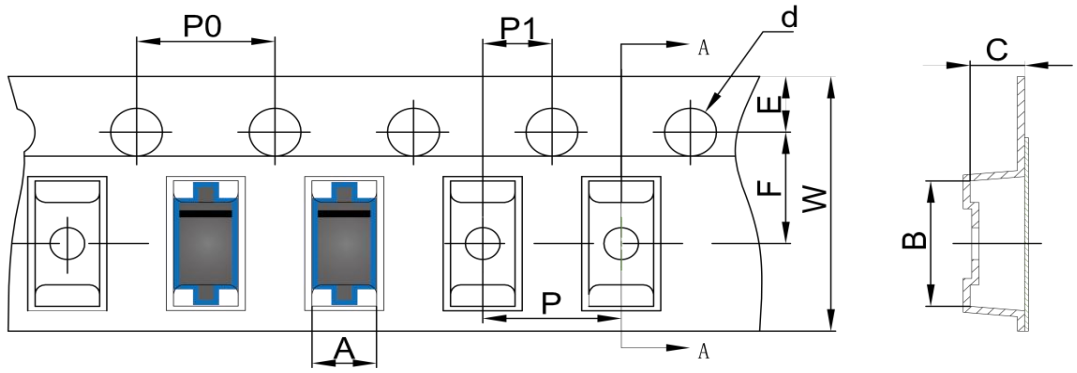
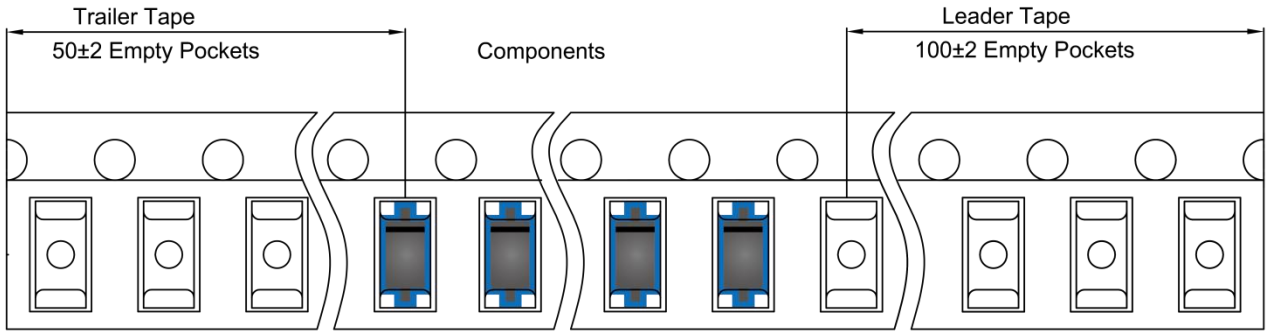
SMAF Tape and Reel

SMAF Embossed Carrier Tape

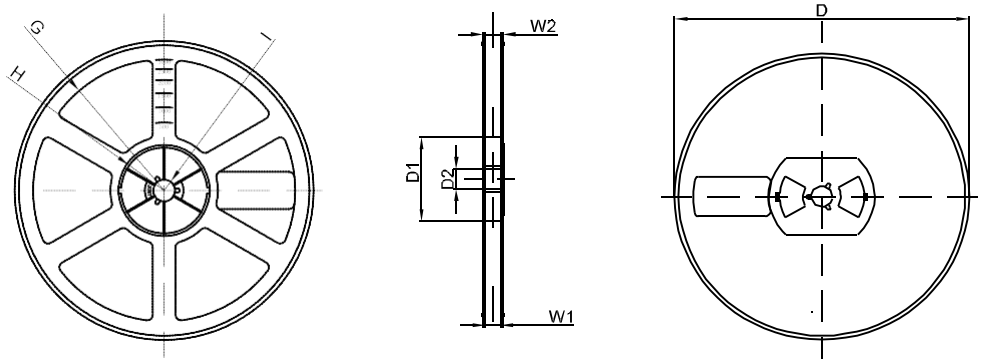


	DIMENSIONS ARE IN MILLIMETER									
TYPE	A	B	C	d	E	F	P0	P	P1	W
SMAF	2.79	5.35	1.48	Ø1.50	1.75	5.50	4.00	4.00	2.00	12.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

SMAF Tape Leader and Trailer



SMAF Reel



	DIMENSIONS ARE IN MILLIMETER							
REEL OPTION	D	D1	D2	G	H	I	W1	W2
7" DIA	Ø178	54.40	13.00	R78	R25.60	R6.50	12.40	17.60
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1