



ES1AF-PJ~ES1JF-PJ

Surface Mount Superfast Recovery Rectifiers

Features

- For surface mount applications
- Glass passivated chip junction
- Superfast reverse recovery time

SMAF



1.Cathode  2.Anode

Marking Code:

ES1AF-PJ: ES1A
 ES1BF-PJ: ES1B
 ES1CF-PJ: ES1C
 ES1DF-PJ: ES1D
 ES1EF-PJ: ES1E
 ES1GF-PJ: ES1G
 ES1JF-PJ: ES1J

Maximum Ratings and Electrical Characteristics

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

Parameter	Symbols	ES1AF-PJ	ES1BF-PJ	ES1CF-PJ	ES1DF-PJ	ES1EF-PJ	ES1GF-PJ	ES1JF-PJ	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	600	V
Maximum RMS Voltage	V_{RMS}	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	600	V
Maximum Average Forward Rectified Current at $T_C = 125^\circ\text{C}$	$I_{F(AV)}$	1.0							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	30							A
Maximum Instantaneous Forward Voltage at 1 A	V_F	1.0				1.25		1.68	V
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_A = 25^\circ\text{C}$ $T_A = 125^\circ\text{C}$	I_R					5			μA
						100			
Typical Junction Capacitance ^{Note1}	C_j					15			pF
Typical Thermal Resistance ^{Note2}	$R_{\theta JA}$					80			$^\circ\text{C}/\text{W}$
Maximum Reverse Recovery Time ^{Note3}	T_{rr}					35			nS
Junction Temperature	T_J					150			$^\circ\text{C}$
Storage Temperature Range	T_{STG}					-55 to +150			$^\circ\text{C}$

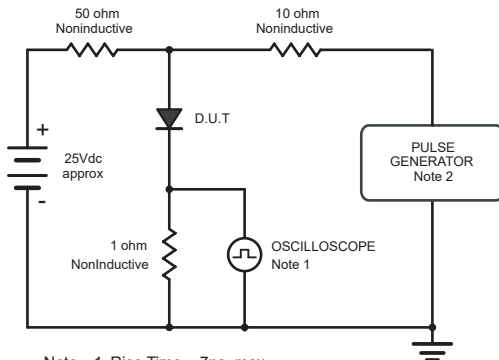
Note:

1. Measured at 1 MHz and applied reverse voltage of 4 V D.C
2. P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.
3. Measured with $I_F = 0.5 \text{ A}$, $I_R = 1 \text{ A}$, $I_{rr} = 0.25 \text{ A}$

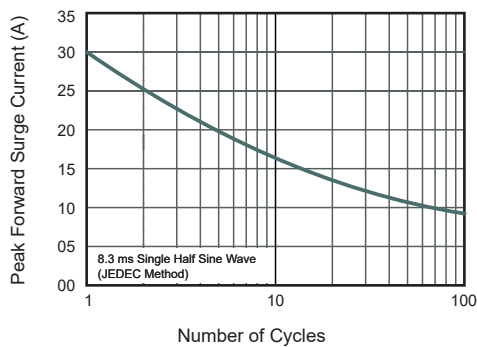
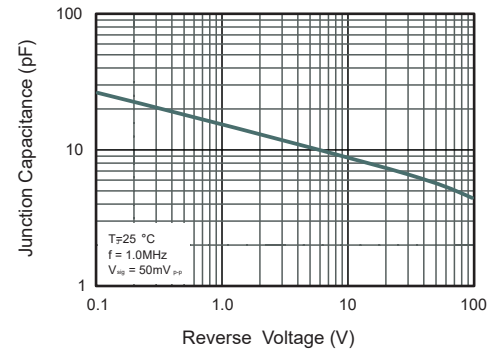
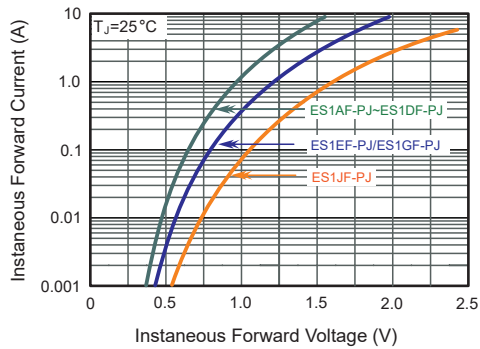
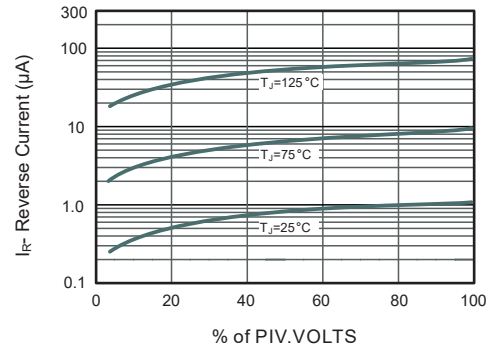
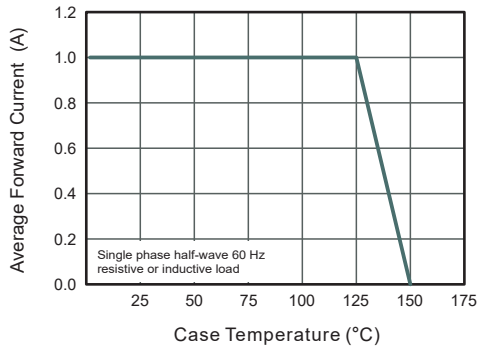
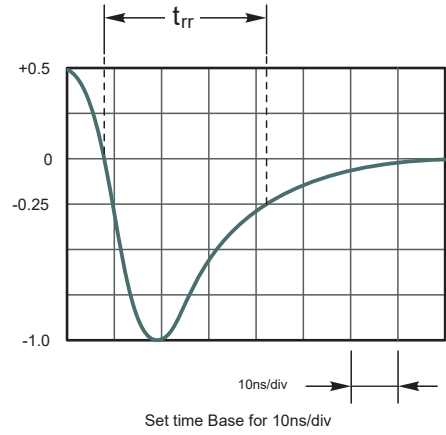


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Typical Characteristic Curves



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





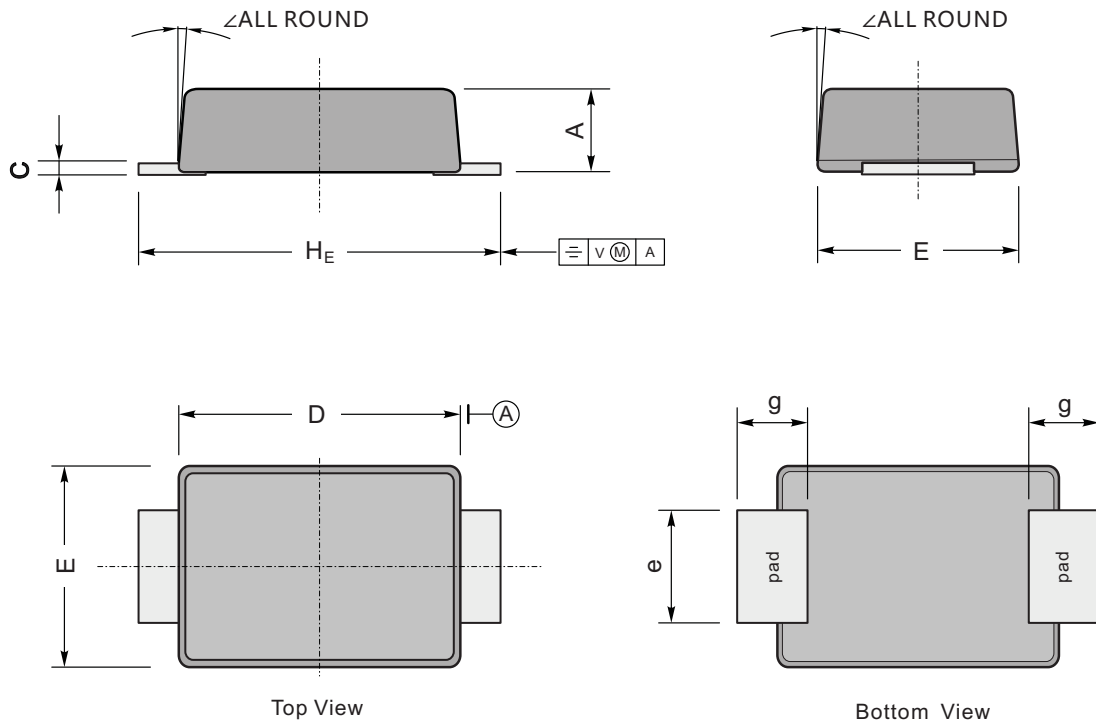
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Package Outline

SMAF

Dimensions in mm



UNIT		A	C	D	E	e	g	H_E	\angle
mm	max	1.2	0.20	3.7	2.7	1.6	1.2	4.9	7°
	min	0.9	0.12	3.3	2.4	1.3	0.8	4.4	
mil	max	47	7.9	146	106	63	47	193	
	min	35	4.7	130	94	51	31	173	