



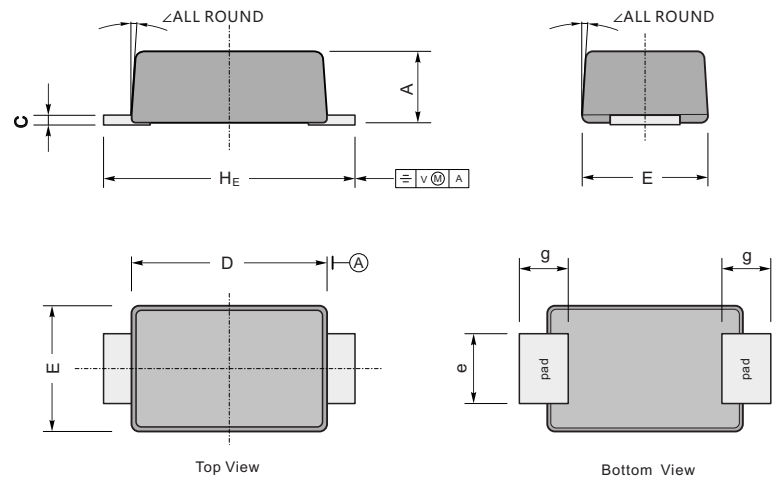
ES2AF-ES2KF

2.0AMPS Surface Mount Super Fast Rectifiers

Features

- ✧ Glass passivated junction chip
- ✧ For surface mounted application
- ✧ Low profile package
- ✧ Built-in strain relief
- ✧ Ideal for automated placement
- ✧ Easy pick and place
- ✧ Super fast recovery time for high efficiency
- ✧ Glass passivated chip junction
- ✧ High temperature soldering:
260°C/10 seconds at terminals
- ✧ Meet MSL level 1, per J-STD-020D
lead free, maximum peak of 260°C

SMAF



UNIT		A	C	D	E	e	g	H _E	∠
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	

Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Terminals: Pure tin plated, lead free
- ✧ Polarity: Indicated by cathode band
- ✧ Packing: 12mm tape per EIA STD RS-481
- ✧ Weight: 0.027 grams

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Type Number	Symbol	ES 2A	ES 2B	ES 2C	ES 2D	ES 2E	ES 2G	ES 2J	ES 2K	Units
Maximum Recurrent Peak Reverse Voltage	V	50	100	150	200	300	400	600	800	V
Maximum RMS Voltage	V _{RMS}	35	70	105	140	210	280	420	560	V
Maximum DC Blocking Voltage	V	50	100	150	200	300	400	600	800	V
Maximum Average Forward Rectified Current	I _{F(AV)}	2								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	50								A
Maximum Instantaneous Forward Voltage (Note 1) @ 2 A	V _F	1.0			1.25		1.65			V
Maximum DC Reverse Current @ T _A =25 °C	I _R	10								uA
at Rated DC Blocking Voltage @ T _A =125 °C		350								uA
Maximum Reverse Recovery Time (Note 2)	T _{rr}	35								nS
Typical Junction Capacitance (Note 3)	C _j	25				20				pF
Maximum Thermal Resistance	R _{θJA}	75								°C/W
	R _{θJL}	20								
Operating Temperature Range	T _J	- 55 to + 150								°C
Storage Temperature Range	T _{STG}	- 55 to + 150								°C

Note 1: Pulse Test with PW=300 usec, 1% Duty Cycle

Note 2: Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

Note 3: Measured at 1 MHz and Applied V_R=4.0 Volts





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Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

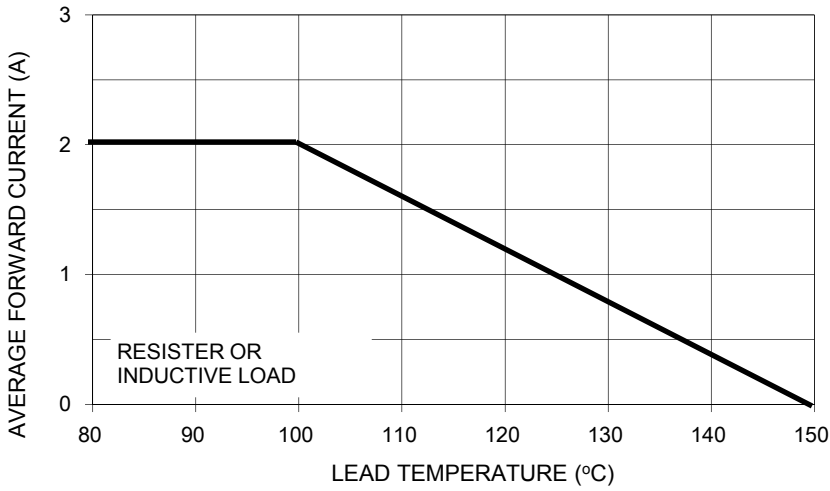


FIG. 2- TYPICAL REVERSE CHARACTERISTICS

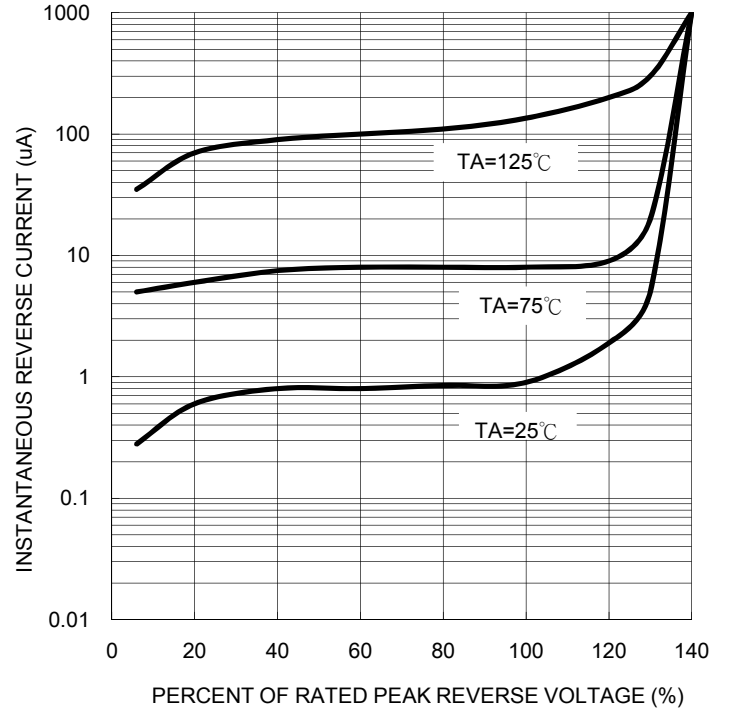


FIG. 3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

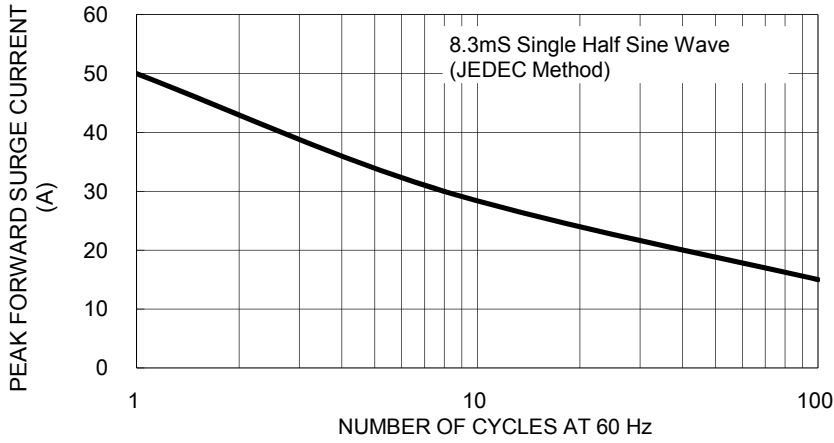


FIG. 5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

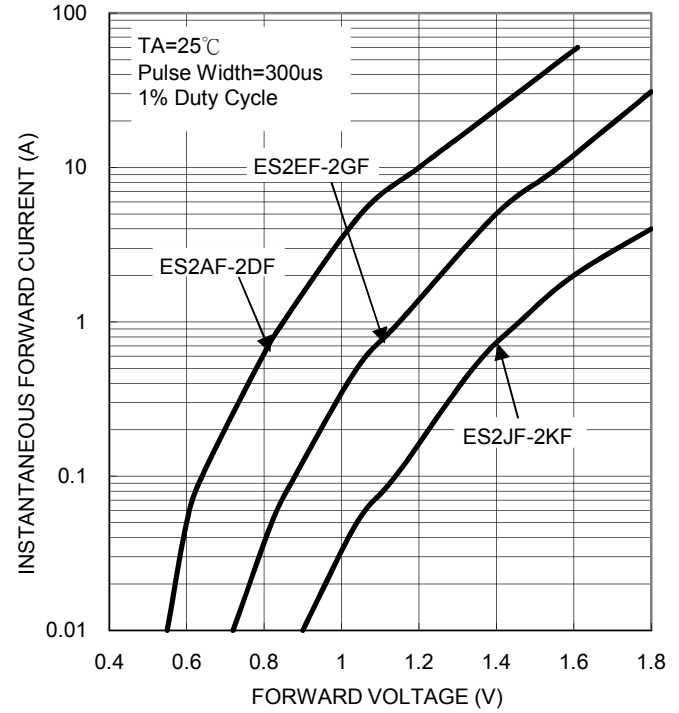


FIG. 4- TYPICAL JUNCTION CAPACITANCE

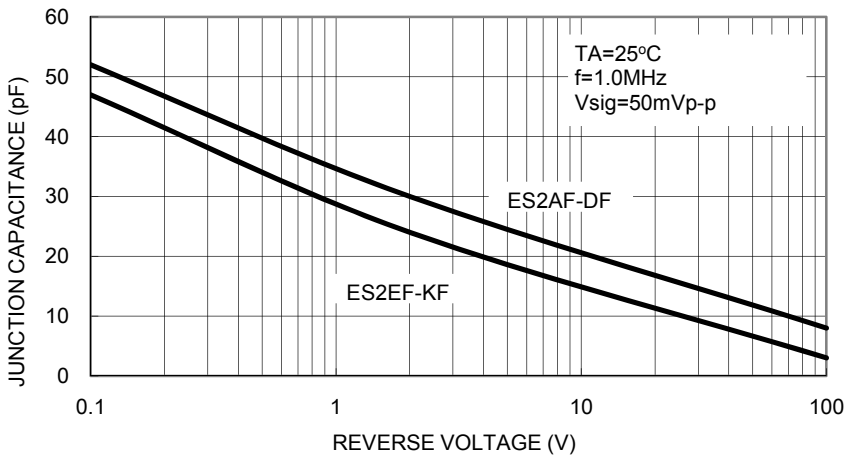
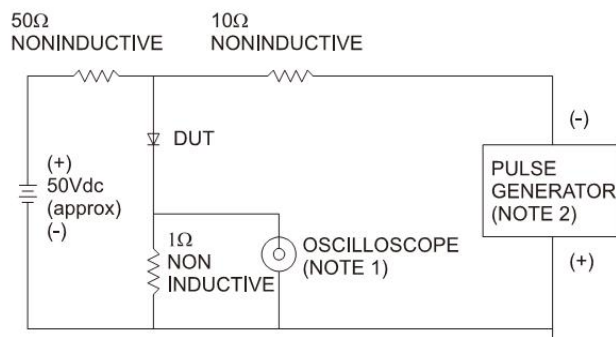
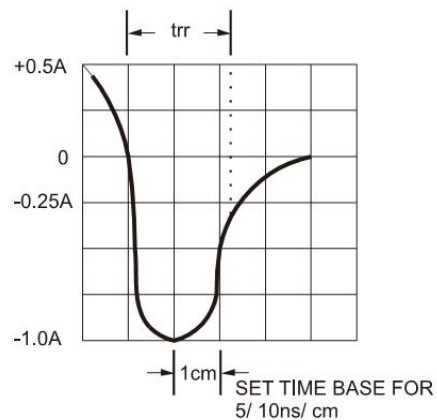


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES: 1. Rise Time=7ns max. Input Impedance= 1 megohm 22pf
2. Rise Time=10ns max. Source Impedance= 50 ohms



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