

Surface Mount Superfast Recovery Rectifier

Reverse Voltage - 50V~600V

Forward Current - 2 A

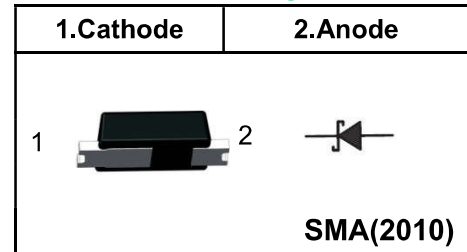
FEATURES

- ◆ For surface mounted applications
- ◆ Low profile package
- ◆ Glass Passivated Chip Junction
- ◆ Superfast reverse recovery time
- ◆ Leadfree in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

- ◆ Case: SMA(2010)
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Approx. Weight: 30mg / 0.0010oz

Pinning



Marking Code

ES2A	ES2A
ES2B	ES2B
ES2C	ES2C
ES2D	ES2D
ES2E	ES2E
ES2G	ES2G
ES2J	ES2J

Absolute Maximum Ratings and Electrical characteristics

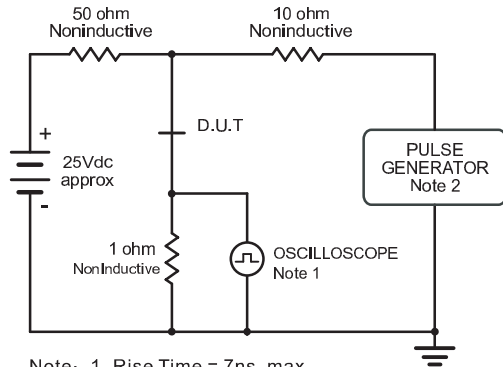
Ratings at 25 ° ambient temperature unless otherwise specified. Single phase, half wave, 60Hz resistive or inductive load, for capacitive load, derate by 20 %

Parameter	Symbols	ES2A	ES2B	ES2C	ES2D	ES2E	ES2G	ES2J	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	$I_{F(AV)}$	2							A	
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed On Rated Load (JEDEC method)	I_{FSM}	50							A	
Maximum Instantaneous Forward Voltage at 2 A	V_F	1				1.25		1.68	V	
Maximum Instantaneous Reverse Current TA = 25°C at Rated DC Reverse Voltage TA = 125°C	I_R	5					100			uA
Typical Junction Capacitance at VR=4V, f=1MHz	C_j	40							pF	
Maximum Reverse Recovery Time ⁽¹⁾	t_{rr}	35							nS	
Typical Thermal Resistance ⁽²⁾	$R_{\theta JA}$	70							°C/W	
Operating and Storage Temperature Range	T_J, T_{stg}	-55 ~ +150							°C	

(1) Measured with $I_F = 0.5 A$, $I_R = 1 A$, $I_{rr} = 0.25 A$

(2) P.C.B. mounted with 1.0 X 1.0" (2.54 X 2.54 cm) copper pad areas.

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



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

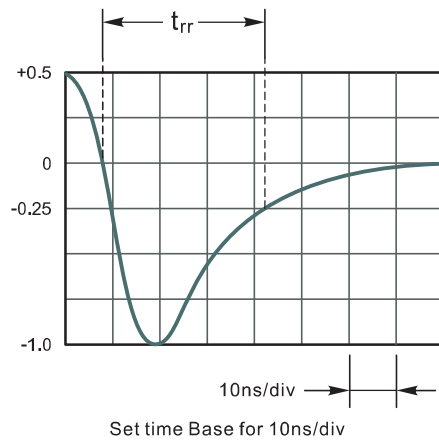


Fig.2 Maximum Average Forward Current Rating

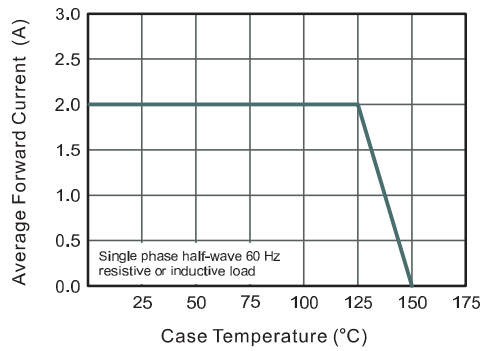


Fig.3 Typical Reverse Characteristics

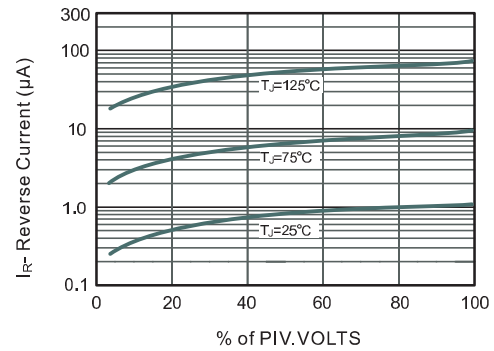


Fig.4 Typical Forward Characteristics

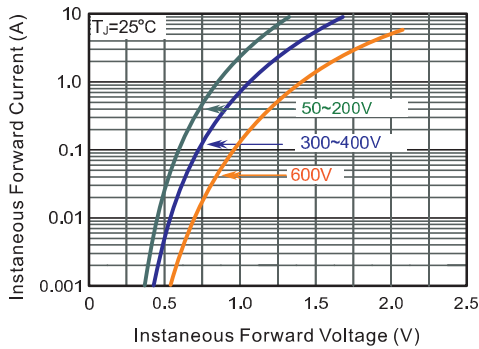


Fig.5 Typical Junction Capacitance

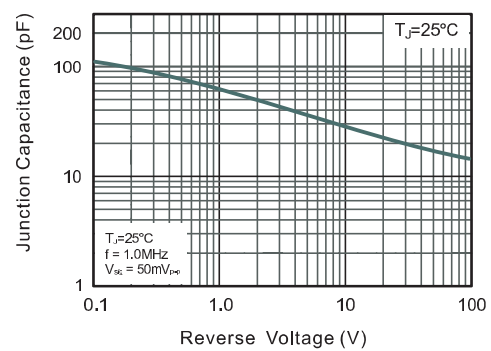


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current

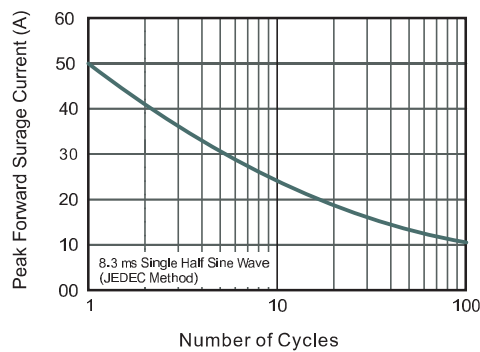
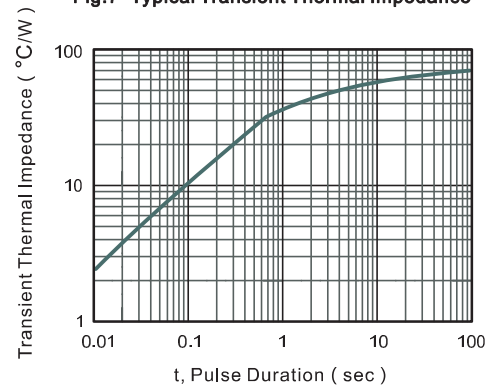
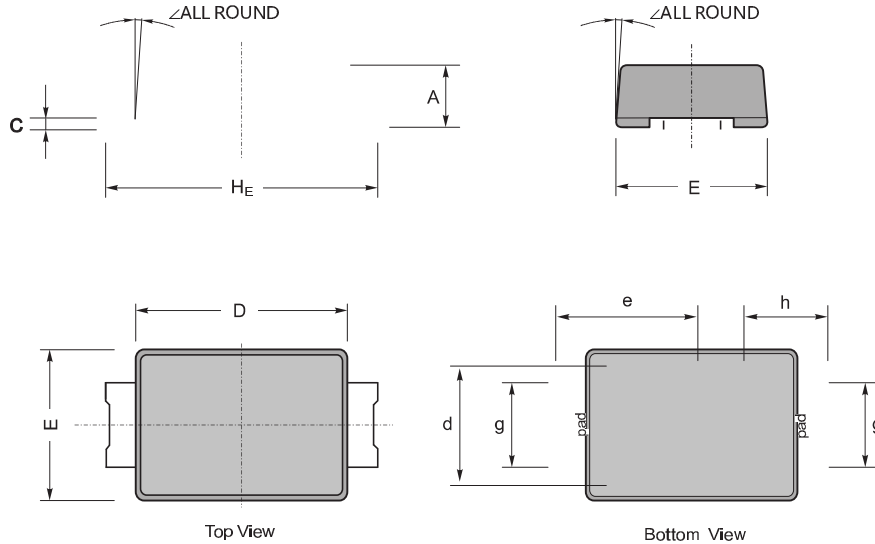


Fig.7- Typical Transient Thermal Impedance



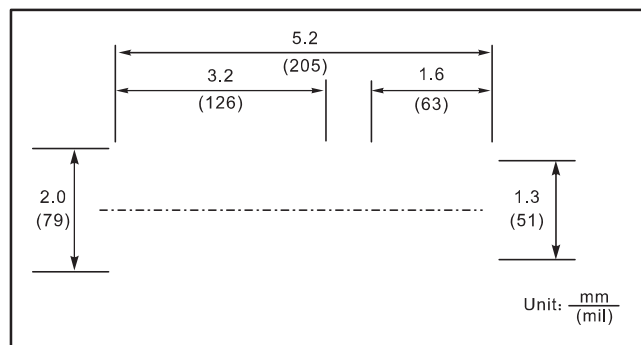
Package Outline SMA(2010)

Plastic surface mounted package; 2 leads



UNIT		A	C	D	E	HE	d	e	g	h	∠
mm	max	1.20	0.35	4.10	2.70	5.20	1.90	3.05	1.50	1.2	12°
	min	0.90	0.20	3.70	2.30	4.80	1.70	2.85	1.30	1.0	
mil	max	47	13.8	161	106	205	75	120	59	47	
	min	35	7.9	145	90	189	67	112	51	39	

The recommended mounting pad size



Summary of Packing Options

Package	Package Description	Packing Quantity	Industry Standard
SMA(2010)	Tape/Reel, 7" reel	3000	EIA-481-1