

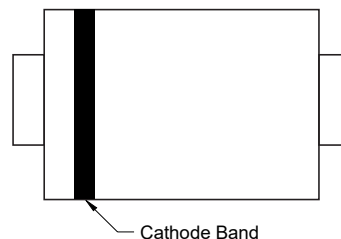
SURFACE MOUNT SUPER FAST RECOVERY RECTIFIER

Reverse Voltage - 50 to 600 Volts Forward Current - 3.0 Ampere

Features

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Super fast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

DO-214AC/SMA 



Equivalent circuit



Mechanical Data

Case : DO-214AC/SMA molded plastic body

Terminals :Solderable per MIL-STD-750,Method2026

Approx. Weight : 0.055grams / 0.002oz

Absolute Maximum Ratings and Electrical characteristics

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

Parameter	Symbols	ES3A	ES3B	ES3C	ES3D	ES3E	ES3G	ES3J	Units
Marking Code		ES3A	ES3B	ES3C	ES3D	ES3E	ES3G	ES3J	
Maximum Repetitive Peak Reverse Voltage	VRRM	50	100	150	200	300	400	600	V
Maximum RMS voltage	VRMS	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	VDC	50	100	150	200	300	400	600	V
Maximum Average Forward Rectified Current	IF(AV)	3.0							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	IFSM	80							A
Maximum Instantaneous Forward Voltage at 3.0 A	VF	1.0				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 VR=4V, f=1MHz	Cj	40							pF
Maximum Reverse Recovery Time (note1)	trr	35							ns
Typical Thermal Resistance (note2)	RθJA RθJC	50 16							°C/W
Operating Junction and Storage Temperature Range	Tj, Tstg	-55 ~ +150							°C

Note: 1.Measured with I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A.

2.P.C.B. mounted with 2.0 X 2.0" (5 X 5cm) copper pad areas.

Typical Characteristics

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram

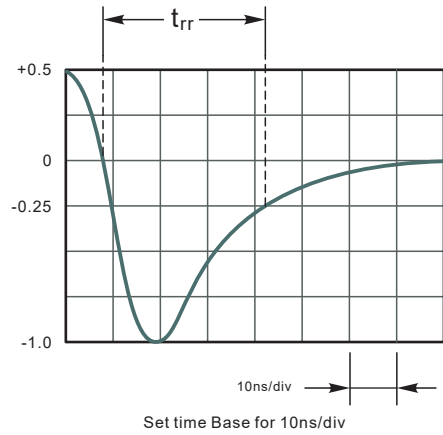
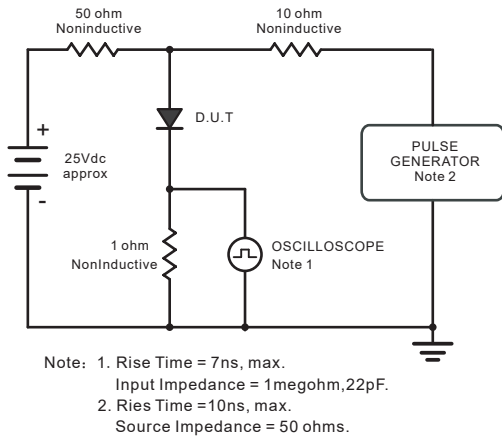


Fig.2 Maximum Average Forward Current Rating

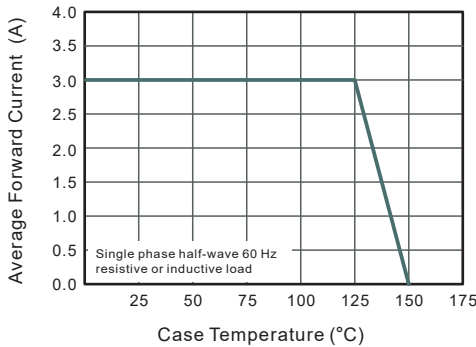


Fig.3 Typical Reverse Characteristics

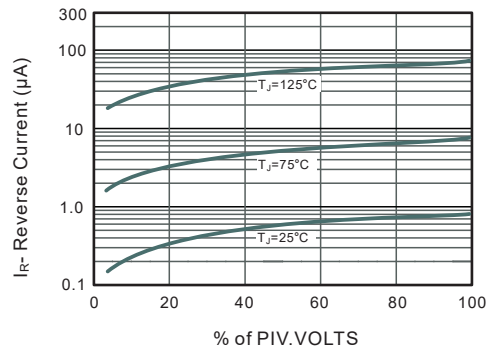


Fig.4 Typical Forward Characteristics

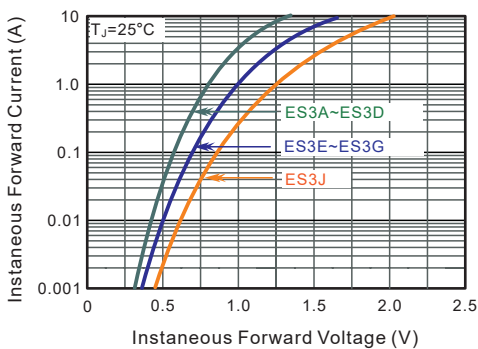


Fig.5 Typical Junction Capacitance

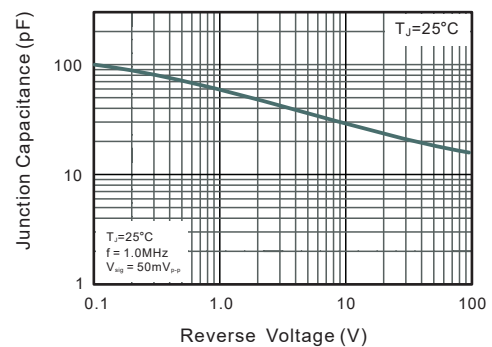


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current

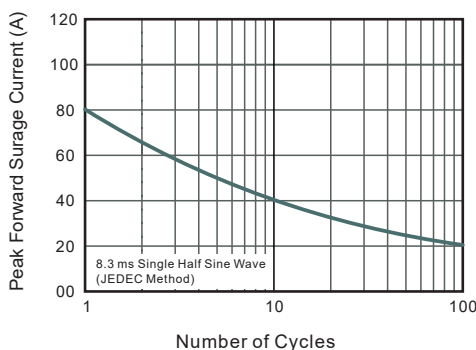
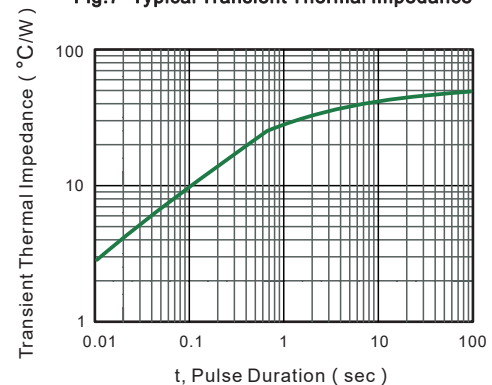
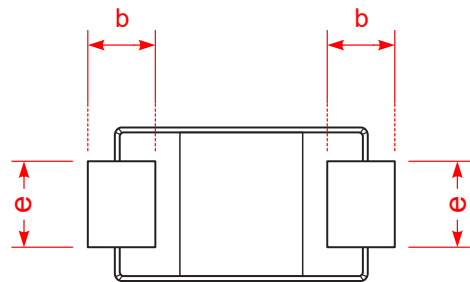
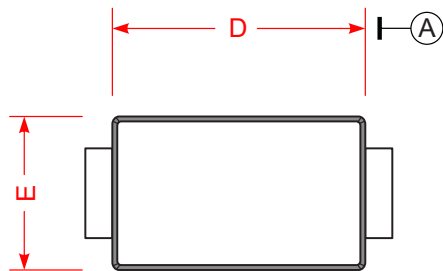
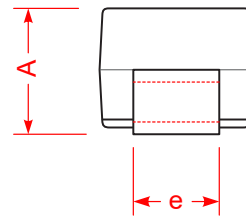
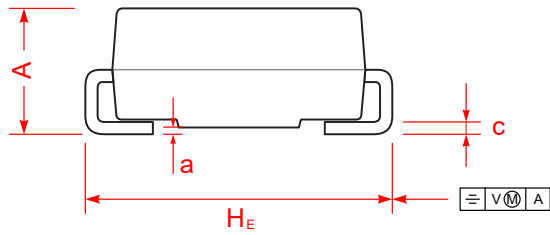


Fig.7- Typical Transient Thermal Impedance

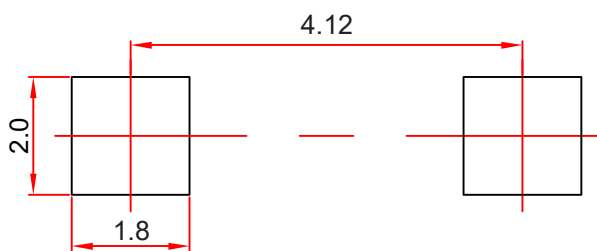


DO-214AC/SMA Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.90	2.20	0.075	0.087
c	0.15	0.31	0.006	0.012
D	4.00	4.50	0.157	0.177
E	2.30	2.70	0.091	0.106
e	1.30	1.60	0.051	0.063
b	0.90	1.50	0.035	0.059
H _E	4.70	5.20	0.185	0.205
a	0.2 REF		0.008 REF	

DO-214AC/SMA Suggested Pad Layout



- Note:
1. Controlling dimension: in/millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.