ES2A THRU ES2J

Reverse Voltage - 50 to 600 Volts Forward Current - 2.0 Ampere

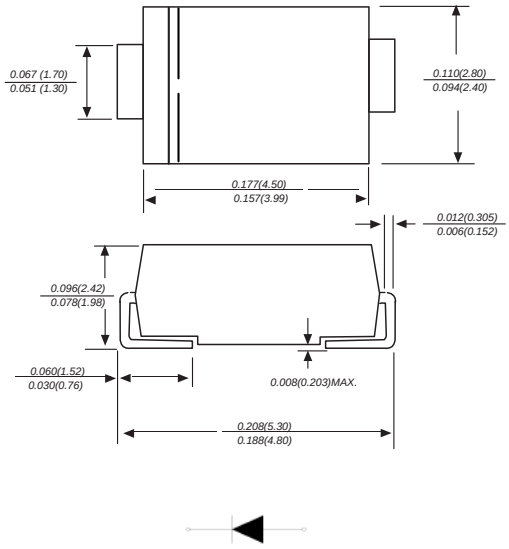
SURFACE MOUNT SUPER FAST RECOVERY RECTIFIER

Features

DO-214AC/SMA

RoHS COMPLIANT

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Low reverse leakage
- Built-in strain relief,ideal for automated
- placement High forward surge current capability
- High temperature soldering guaranteed:
- 250°C/10 seconds at terminals
  Glass passivated chip junction



Dimensions in inches and (millimeters)

Mechanical Data

Case : JEDEC DO-214AC/SMA Molded plastic body
Terminals : Solder plated, solderable per MIL-STD-750,Method 2026
Polarity : Polarity symbol marking on body
Mounting Position : Any
Weight : 0.0019 ounce, 0.055grams

Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unlss otherwise specified.

Single phase half-wave 60Hz,resistive or inductive load,for capacitive load current derate by 20%.

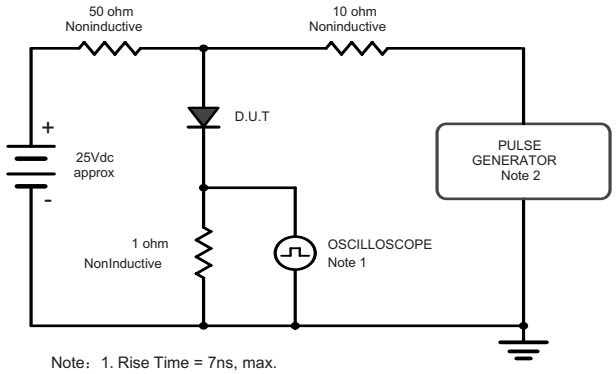
Parameter / Marking Code	SYMBOLS	MDD ES2A	MDD ES2B	MDD ES2C	MDD ES2D	MDD ES2E	MDD ES2G	MDD ES2J	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	600	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	420	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	600	V
Maximum average forward rectified current at Tc=125℃	$I_{(AV)}$	2.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed onrated load (JEDEC Method)	I_{FSM}	50							A
Maximum instantaneous forward voltage at 2.0A	V_F	1				1.25		1.68	V
Maximum DC reverse current T_A=25℃ / at rated DCblocking voltage T_A=125℃	I_R	5.0 / 100.0							uA
Maximum reverse recovery time (NOTE 1)	trr	35							ns
Typical junction capacitance (NOTE 2)	C_J	40.0							pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	60.0							℃/W
Operating junction and storage temperature range	T_J,T_{STG}	-55 to +150							℃

Note:1.Reverse recovery condition I_F=0.5A,I_R=1.0A,Irr=0.25A
2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.
3.Pulse test: Pulse width 200 sec, Duty cycle 2%
4..P.C.B. mounted with 1.0 X 1.0" (2.54 X 2.54 cm) copper pad areas.

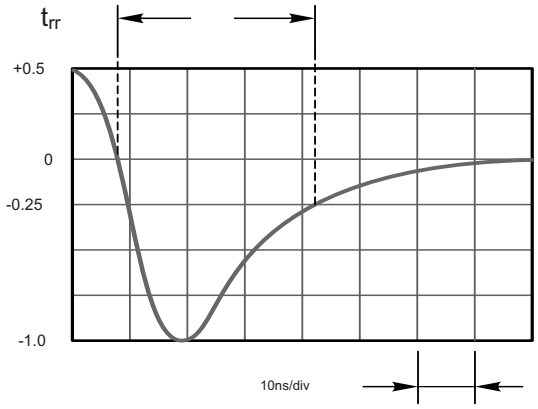
DN:T21312A1

Ratings And Characteristic Curves

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

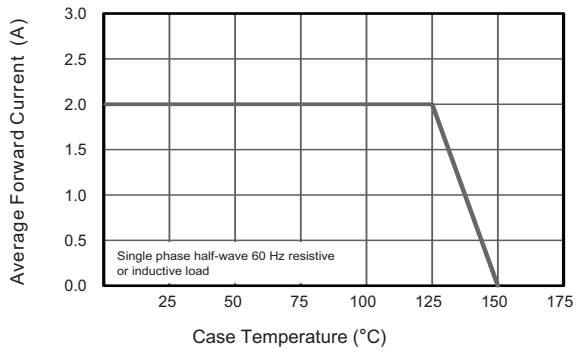


Fig.3 Typical Reverse Characteristics

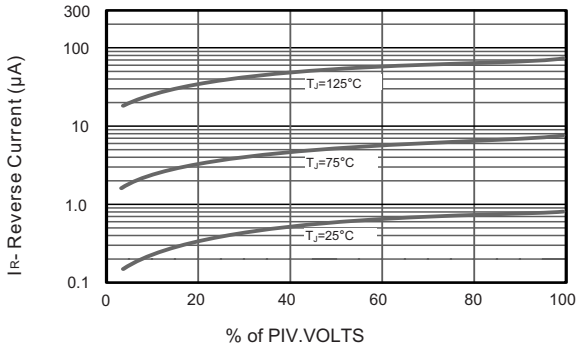


Fig.4 Typical Forward Characteristics

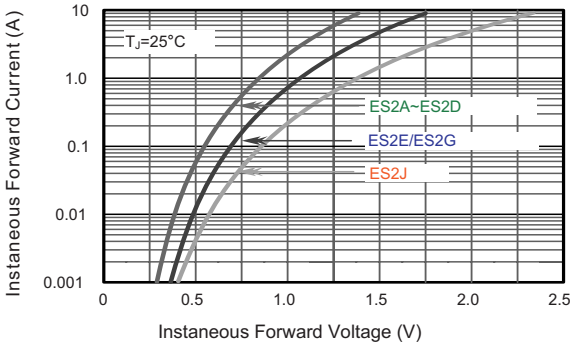


Fig.5 Typical Junction Capacitance

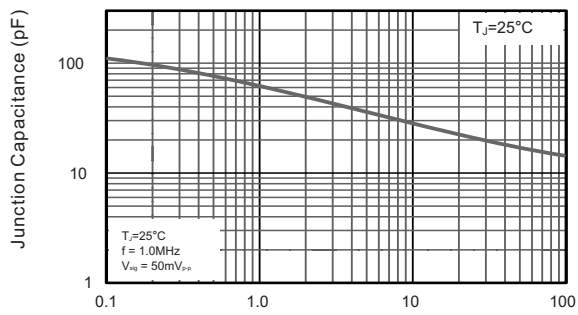
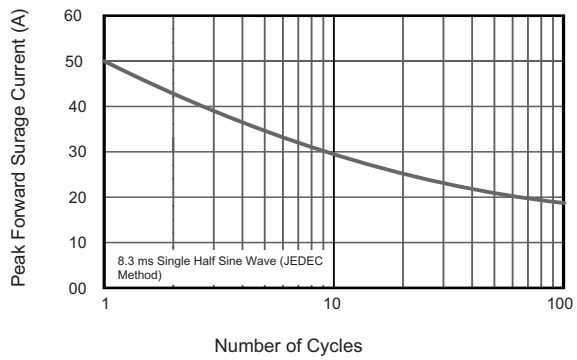
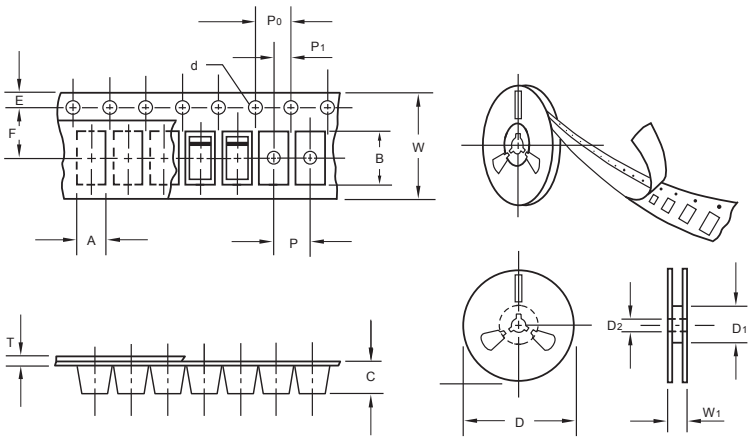


Fig.6 Maximum Non-Repetitive Peak Forward Surage Current



The curve above is for reference only.

Packing information



unit:mm

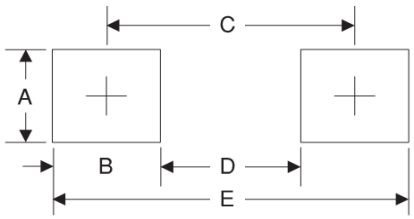
Item	Symbol	Tolerance	SMA
Carrier width	A	0.1	2.80
Carrier length	B	0.1	5.33
Carrier depth	C	0.1	2.36
Sprocket hole	d	0.05	1.50
13" Reel outside diameter	D	2.0	330.00
13" Reel inner diameter	D_1	min	50.00
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D_1	min	62.00
Feed hole diameter	D_2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	5.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P_0	0.1	4.00
Embossment center	P_1	0.1	2.00
Overall tape thickness	T	0.1	0.28
Tape width	W	0.3	12.00
Reel width	W_1	1.0	18.00

Note:Devices are packed in accor dance with EIA standar RS-481-A and specifications listed above.

Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SMA	7"	2,000	4.0	4,000	183*155*183	178	382*356*392	80,000	16.0
SMA	11"	5,000	4.0	10,000	290*290*38	330	310*310*360	80,000	11.0
SMA	13"	7,500	4.0	15,000	335*335*38	330	350*330*360	120,000	14.5

Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	1.68	0.066
B	1.52	0.060
C	3.90	0.154
D	2.41	0.095
E	5.45	0.215

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