SURFACE MOUNT SUPERFAST RECOVERY RECTIFIERS Reverse Voltage – 50 to 600 Volts Forward Current – 2.0 Ampere

FEATURES

- Glass passivated junction chip
- For surface mounted application
- Low profile package
- Built-in strain relief
- Ideal for automated placement
- Glass passivated chip junction
- High temperatur se oldering: 260O C/10 seconds at terminals
- AEC-Q101 qualified (Automotive grade with suffix "Q".)
- Expsemi electronics

MECHANICAL DATA

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

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 2AA	ES 2BA	ES 2CA	ES 2DA	ES 2FA	ES 2GA	ES 2HA	ES 2JA	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	500	600	V
Maximum RMS Voltage	V_{RMS}	35	70	105	140	210	280	350	420	V
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	500	600	V
Maximum Average Forward Rectified Current See Fig. 1	$I_{(AV)}$	2.0								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 @ 2.0A	V_F	1.3				1.5		1.9		V
Maximum DC Reverse Current @T_A =25°C at Rated DC Blocking Voltage @ T_A=100 °C	I_R	5 350								uA uA
Maximum Reverse Recovery Time (Note 1)	Trr	35								nS
Typical Junction Capacitance (Note 2)	Cj	25				20				pF
Maximum Thermal Resistance (Note 3)	$R_{\theta JA}$	75								°C /W
Operating Temperature Range	T_J	-55 to +150								°C
Storage Temperature Range	T_{STG}	-55 to +150								°C

Notes: 1. Reverse Recovery Test Conditions: IF=0.5A, IR=1.0A, IRR=0.25A
2. Measured at 1 MHz and Applied VR=4.0 Volts
3. Units Mounted on P.C.B. 0.4” x 0.4” (10mm x 10mm) Pad Areas

RATING AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

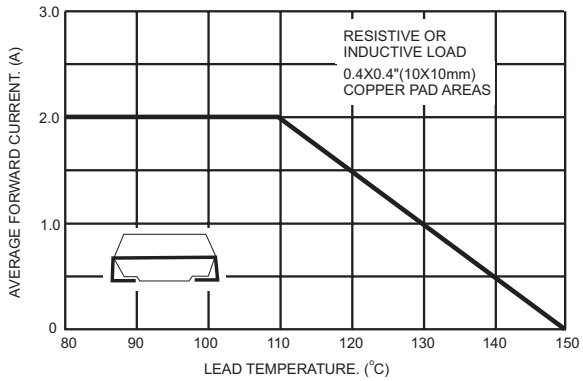


FIG.2- TYPICAL REVERSE CHARACTERISTICS

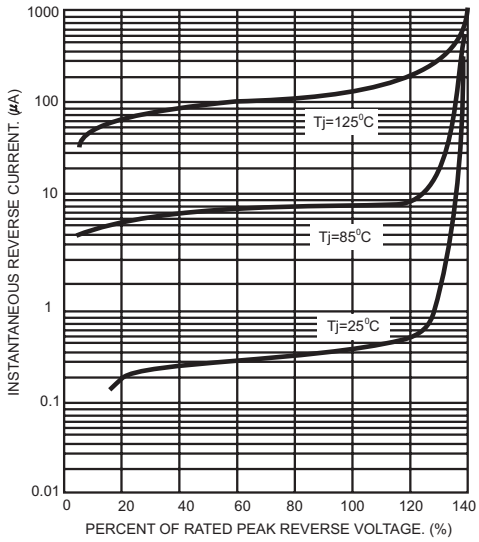


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

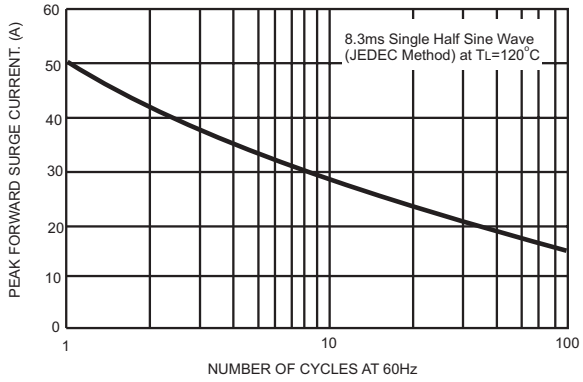


FIG.4- TYPICAL JUNCTION CAPACITANCE

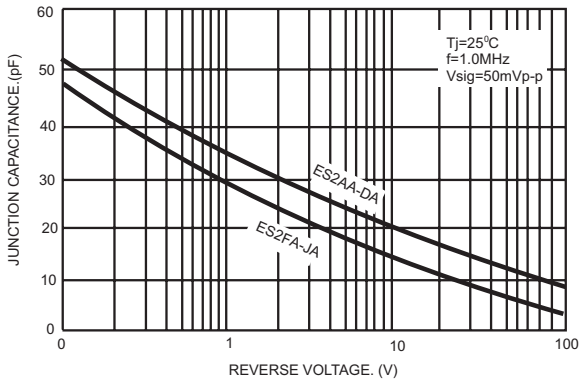


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

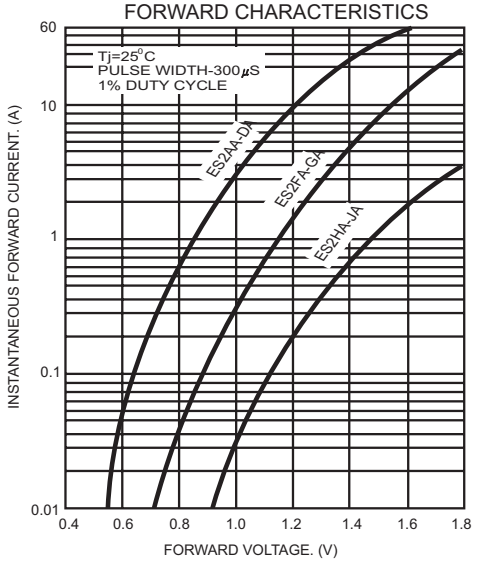
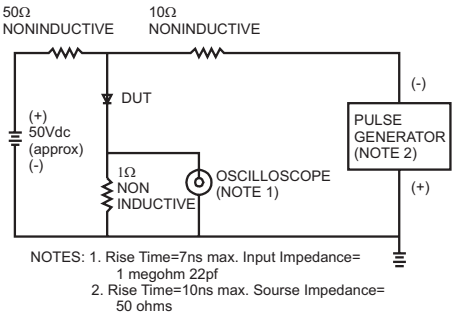
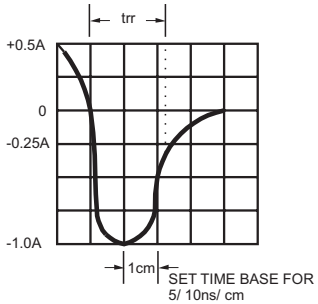


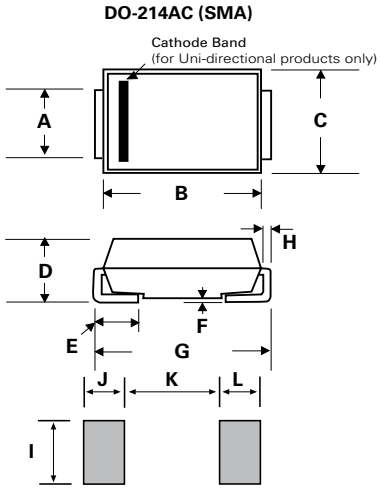
FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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



Dimensions

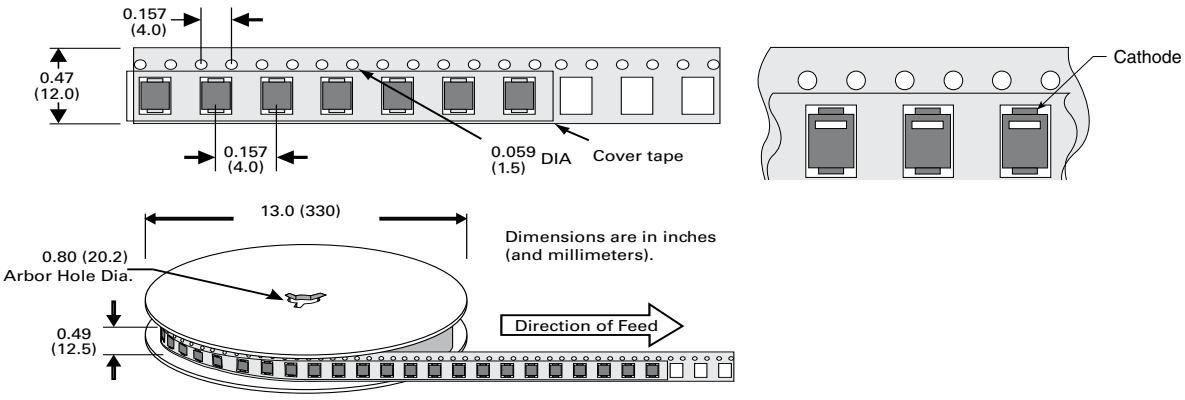


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.047	0.067	1.200	1.700
B	0.154	0.185	3.900	4.700
C	0.095	0.114	2.400	2.900
D	0.075	0.096	1.900	2.440
E	0.030	0.060	0.760	1.520
F	-	0.008	-	0.203
G	0.185	0.222	4.700	5.660
H	0.006	0.012	0.152	0.305
I	0.066	-	1.680	-
J	0.068	-	1.720	-
K	-	0.090	-	2.300
L	0.068	-	1.720	-

Ordering Information

Part number	Component Package	Quantity	Packaging Option	Packaging Specification
ES2XA	DO-214AC	5000	Tape & Reel - 12mm tape/13" reel	EIA STD RS-481

Tape and Reel Specication



Note: Devices are packde in accordance with EIA standard RS-481-Aand specification given above.