



# ES2AA - ES2JA

## 2.0 AMPS. Surface Mount Super Fast Rectifiers

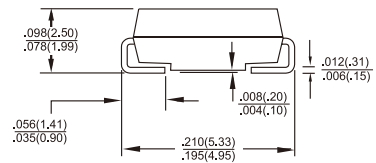
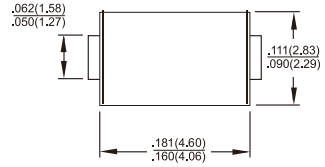
### SMA/DO-214AC

### Features

- ✧ UL Recognized File # E-326243
- ✧ Glass passivated junction chip
- ✧ For surface mounted application
- ✧ Low profile package
- ✧ Built-in strain relief
- ✧ Ideal for automated placement
- ✧ Easy pick and place
- ✧ Superfast recovery time for high efficiency
- ✧ Glass passivated chip junction
- ✧ High temperature soldering:  
260°C/10 seconds at terminals
- ✧ Plastic material used carries Underwriters Laboratory Classification 94V-0
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode.

### 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: 0.064 grams



Dimensions in inches and (millimeters)

Marking Diagram



ES2XA = Specific Device Code  
 G = Green Compound  
 Y = Year  
 M = Work Month

### 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	$I_{F(AV)}$	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	$V_F$	0.95		1.3		1.7				V
Maximum DC Reverse Current at Rated DC Blocking Voltage @ $T_A=25^\circ\text{C}$ ( Note 1 ) @ $T_A=100^\circ\text{C}$	$I_R$					10	350			$\mu\text{A}$ $\mu\text{A}$
Maximum Reverse Recovery Time ( Note 2 )	$T_{rr}$					35				nS
Typical Junction Capacitance (Note 3)	$C_j$	25			20					pF
Maximum Thermal Resistance( Note 4 )	$R_{\theta JA}$ $R_{\theta JL}$					75				$^\circ\text{C}/\text{W}$
						20				
Operating Temperature Range	$T_J$	-55 to +150								$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150								$^\circ\text{C}$

- Notes: 1. Pulse Test with PW=300 usec, 1% Duty Cycle  
 2. Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$   
 3. Measured at 1 MHz and Applied  $V_R=4.0$  Volts  
 4. Units Mounted on P.C.B. 0.2" x 0.2" (5mm x 5mm) Pad Areas

## RATINGS AND CHARACTERISTIC CURVES (ES2AA THRU ES2JA)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

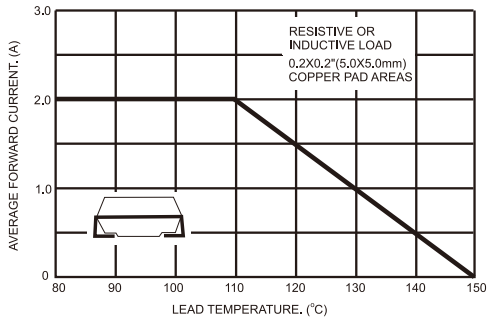


FIG.2- TYPICAL REVERSE CHARACTERISTICS

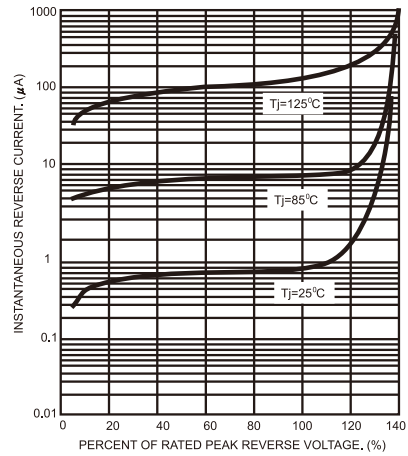


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

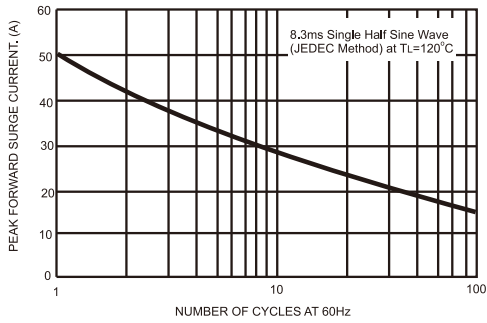


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

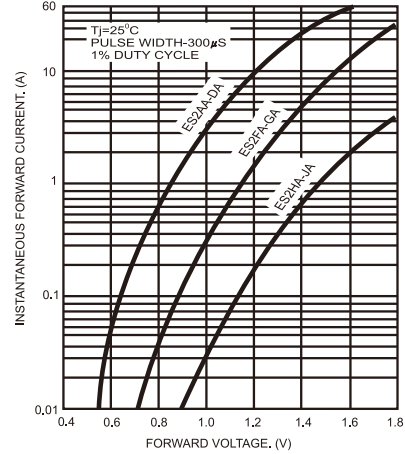


FIG.4- TYPICAL JUNCTION CAPACITANCE

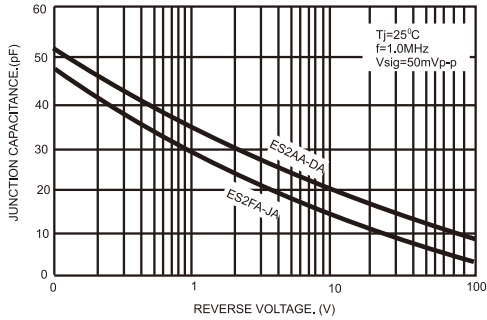
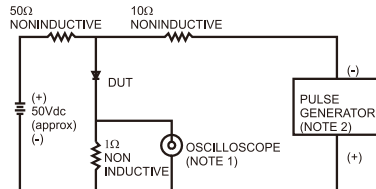


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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

