



ES2A - ES2J

2.0 AMPS. Surface Mount Super Fast Rectifiers

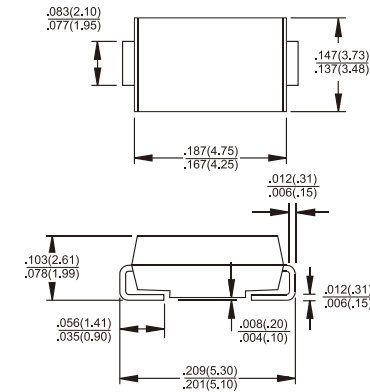
SMB/DO-214AA

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
- ✧ Qualified as per AEC-Q101
- ✧ 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: 0.093 grams



- ES2X = 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 2A	ES 2B	ES 2C	ES 2D	ES 2F	ES 2G	ES 2H	ES 2J	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°C (Note 1) @ T _A =100 °C	I _R	10 350								uA uA
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 _{θJA} R _{θJL}	75 20								°C /W
Operating Temperature Range	T _J	-55 to +150								°C
Storage Temperature Range	T _{STG}	-55 to +150								°C

- Notes: 1. Pulse Test with PW=300 usec, 1% Duty Cycle
2. Reverse Recovery Test Conditions: $I_F=0.5A$, $I_R=1.0A$, $I_{RR}=0.25A$
3. Measured at 1 MHz and Applied $V_R=4.0$ Volts
4. Units Mounted on P.C.B. 0.4" x 0.4" (10mm x 10mm) Pad Areas

RATINGS AND CHARACTERISTIC CURVES (ES2A THRU ES2J)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

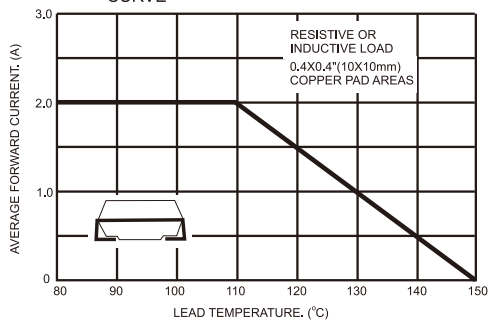


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

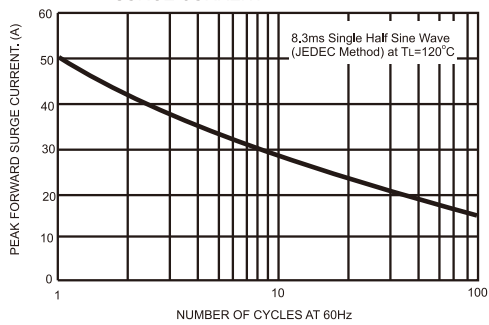


FIG.4- TYPICAL JUNCTION CAPACITANCE

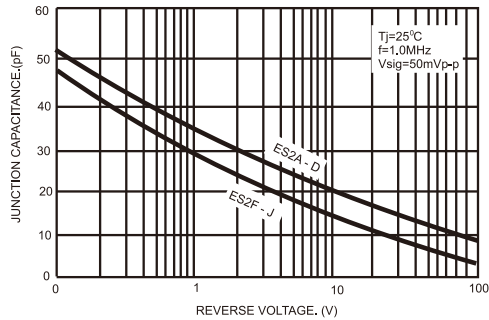


FIG.2- TYPICAL REVERSE CHARACTERISTICS

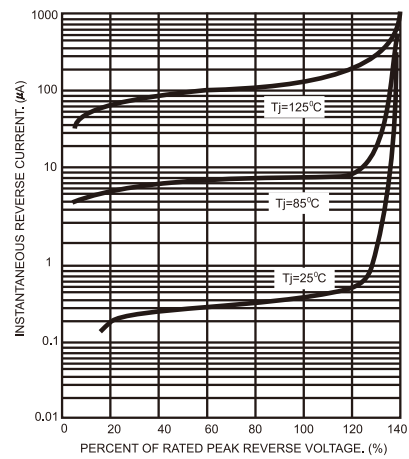


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

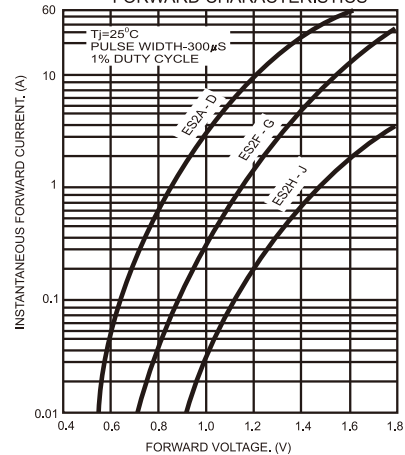


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

