



RoHS
COMPLIANCE



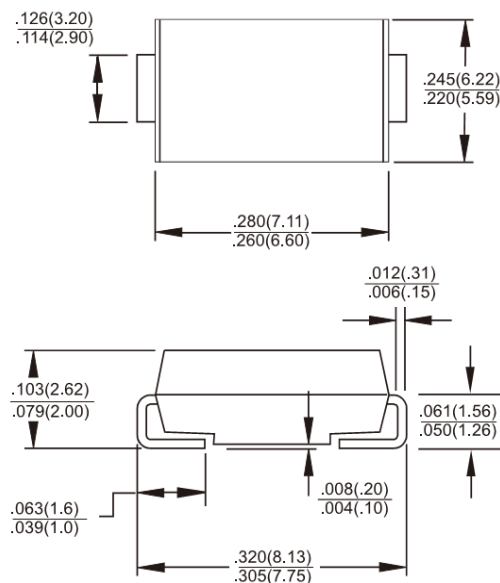
Features

- ✧ Glass passivated junction chip
- ✧ For surface mounted application
- ✧ Low profile package
- ✧ Built-in strain relief, Ideal for automated placement
- ✧ Easy pick and place
- ✧ Esuper fast recovery time for high efficiency
- ✧ High temperature soldering guaranteed:
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
- ✧ High reliability grade (AEC Q101 specified)

Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Terminals: Pure tin plated, lead free, solderable per
MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: Color band denotes cathode
- ✧ Weight: 0.21 grams
- ✧ Packing: 16mm tape per EIA STD RS-481

ES3A - ES3J 3.0AMPS Surface Mount Super Fast Rectifiers SMC/DO-214AB



Dimensions in inches and (millimeters)

Marking Diagram



ES3X = 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	Symbo l	ES 3A	ES 3B	ES 3C	ES 3D	ES 3F	ES 3G	ES 3H	ES 3J	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 see fig. 1	I _{F(AV)}	3								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (IEDEC method)	I _{FSM}	100								A
Maximum Instantaneous Forward Voltage (Note 1) @ 3 A	V _F	0.95				1.3		1.7		V
Maximum DC Reverse Current @ T _A =25 °C at Rated DC Blocking Voltage @ T _A =100 °C	I _R	10 500								uA
Typical Junction Capacitance (Note 2)	C _j	45				30				pF
Typical Reverse Recovery Time (Note 3)	T _{rr}	35								nS
Typical Thermal Resistance	R _{θJA} R _{θJL}	47 12								°C/W
Operating Temperature Range	T _J	- 55 to + 150								°C
Storage Temperature Range	T _{STG}	- 55 to + 150								°C

Note 1: Pulse Test with PW=300 usec, 1% Duty Cycle

Note 2: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

Note 3: Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$

RATINGS AND CHARACTERISTIC CURVES (ES3A THRU ES3J)

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

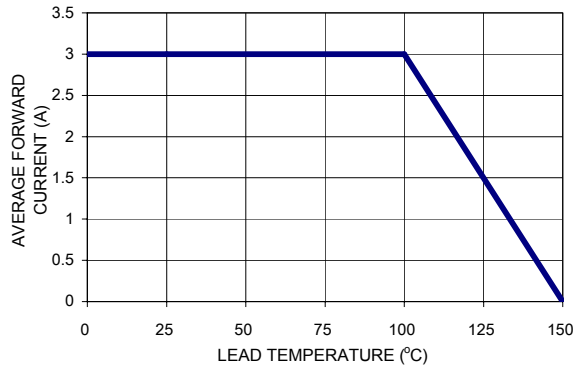


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

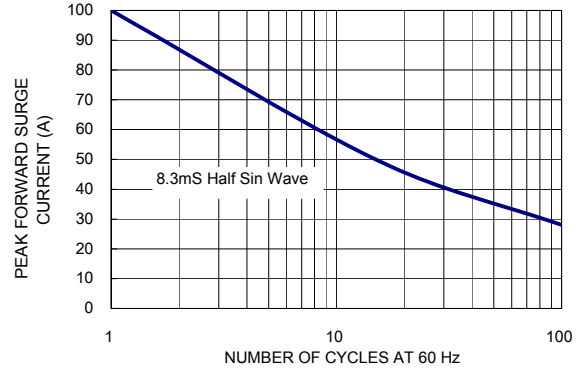


FIG. 3 TYPICAL FORWARD CHARACTERISRICS

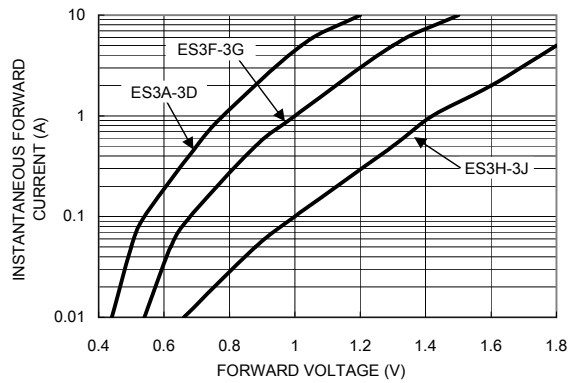


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

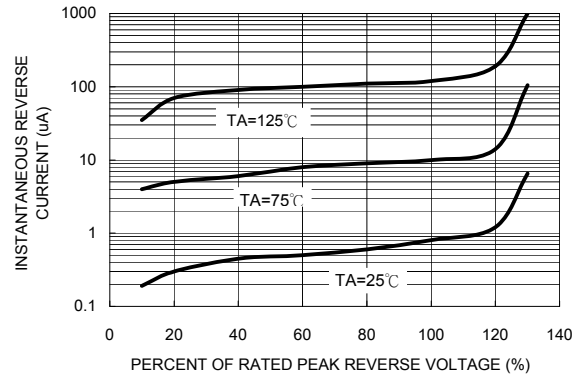


FIG. 5 TYPICAL JUNCTION CAPACITANCE

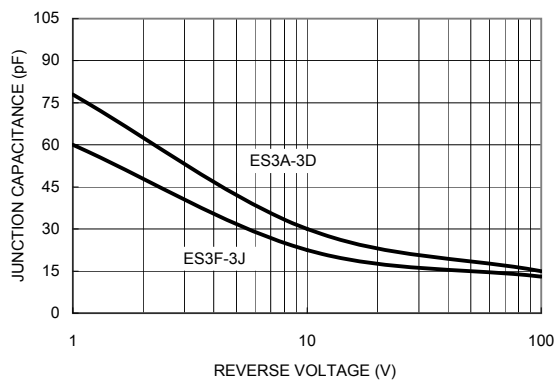


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE

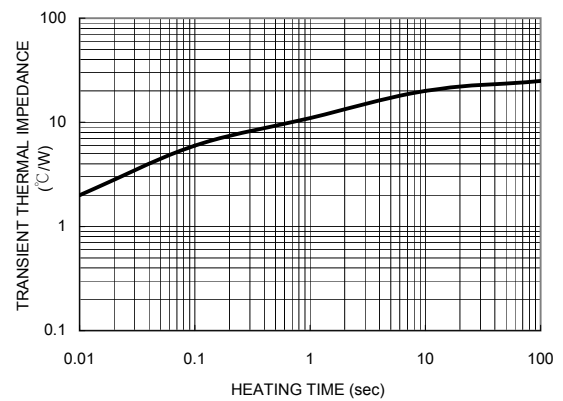


FIG.7- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

