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ES3A THRU ES3J

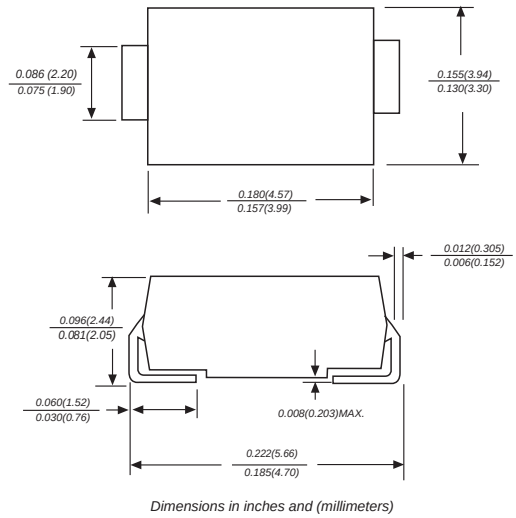
SURFACE MOUNT SUPER FAST RECTIFIER

Reverse Voltage - 50 to 600 Volts Forward Current - 3.0 Amperes

DO-214AA

Features

Glass passivated junction chip
For surface mounted applications
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-O



Dimensions in inches and (millimeters)

Mechanical Data

Cases: Molded plastic
Terminals: Solder plated
Polarity: Indicated by cathode band
Packaging: 16mm tape per EIA STD RS-481
Weight: 0.09 gram

Maximum Ratings and Electrical Characteristics

Rating at 25℃ 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 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 Current See Fig. 1	I(AV)	3.0								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) @T_L = 100℃	I_{FSM}	100								A
Maximum Instantaneous Forward Voltage @ 3.0A	V_F	0.95				1.3		1.7		V
Maximum DC Reverse Current @ T_A =25℃ at Rated DC Blocking Voltage @ T_A=100℃	I_R	10 250								uA uA
Maximum Reverse Recovery Time (Note 1)	Trr	35								nS
Typical Junction Capacitance (Note 2)	Cj	45				30				pF
Typical Thermal Resistance (Note 3)	$R\theta_{JA}$ $R\theta_{JL}$	47 12								℃/W
Operating Temperature Range	T_J	-55 to +150								℃
Storage Temperature Range	T_{STG}	-55 to + 150								℃

Notes: 1. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A
2. Measured at 1 MHz and Applied V_R=4.0 Volts
3. Units Mounted on P.C.B. with 0.6 x 0.6"(16 x 16mm) Copper Pad Areas

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FIG. 1- FORWARD CURRENT DERATING CURVE

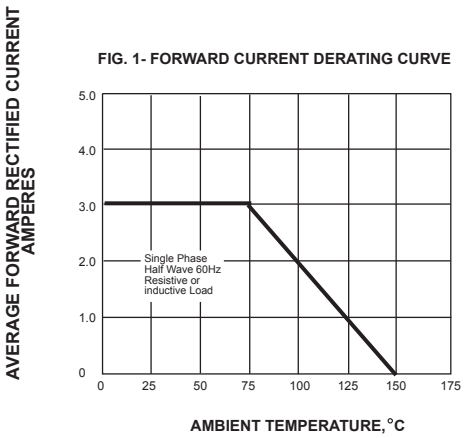

FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

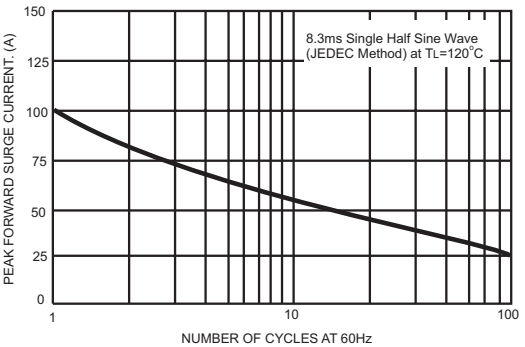

FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

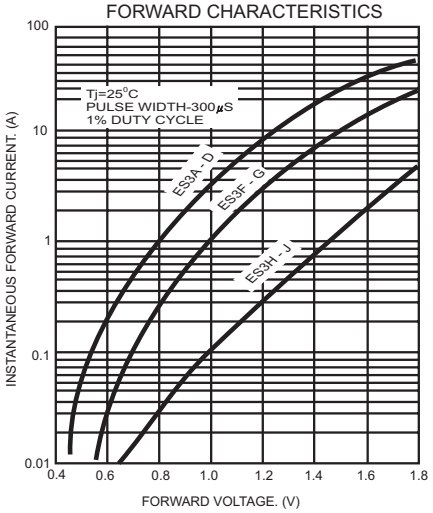

FIG.4- TYPICAL REVERSE CHARACTERISTICS

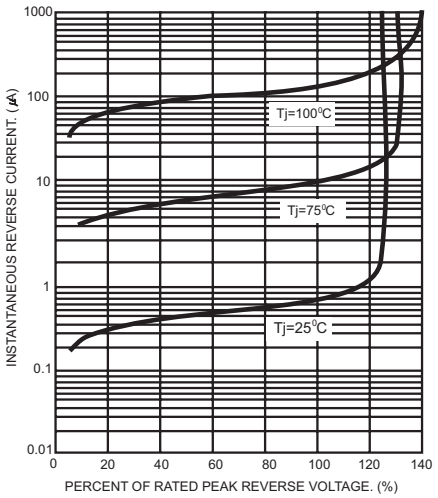

FIG.5- TYPICAL JUNCTION CAPACITANCE