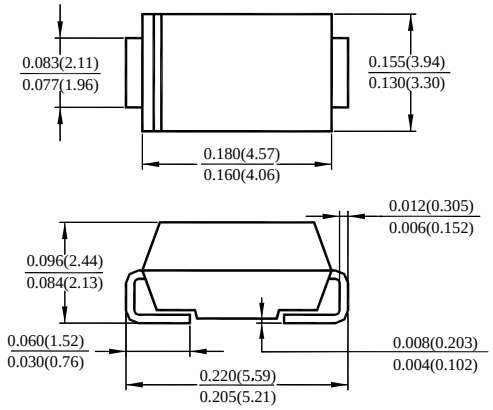
Surface Mount Rectifiers

ES2A---ES2J

FEATURES

For surface mounted application
Low forward voltage drop
High current capability
Easy pick and place
High surge current capability
Plastic material used carries Underwriters
Laboratory Classification 94V-O
High temperature soldering:
260°C / 10 seconds at terminals



Dimensions in inches and (millimeters)

DO-214AA (SMB)

MECHANICAL DATA

Case: Molded plastic
Terminals: Solder plated
Polarity: Indicated by cathode band
Packaging: 12mm tape per EIA STD RS-481

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings 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	$I_{(AV)}$	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 @T_A =25°C at Rated DC Blocking Voltage @ T_A=100 °C	I_R	10 350								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)	$R_{\theta JA}$ $R_{\theta JL}$	75 20								°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 V_R=4.0 Volts
3. Measured on P.C. Board with 0.4 x 0.4" (10 x 10mm) Copper Pad Areas.

ES2A---ES2J Typical Characteristics

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

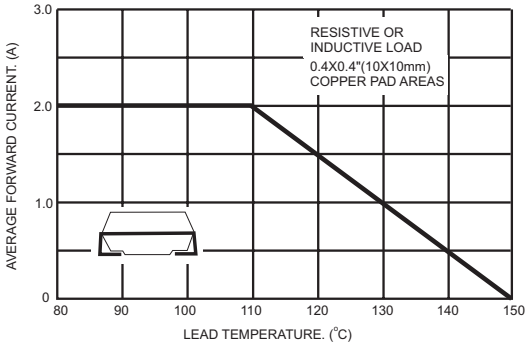


FIG.2- TYPICAL REVERSE CHARACTERISTICS

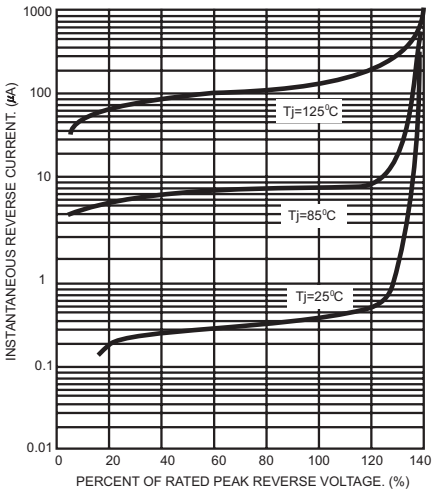


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

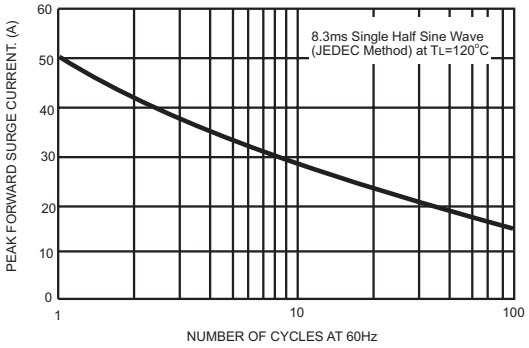


FIG.4- TYPICAL JUNCTION CAPACITANCE

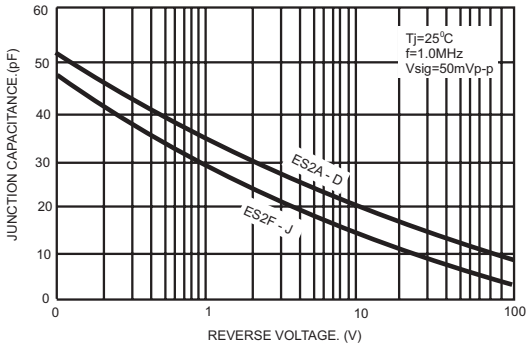


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

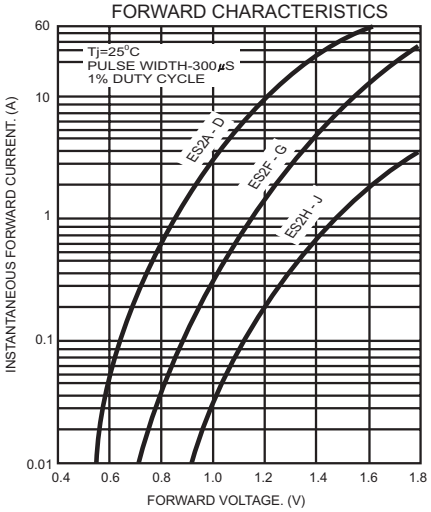


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM