

ES3A-ES3J

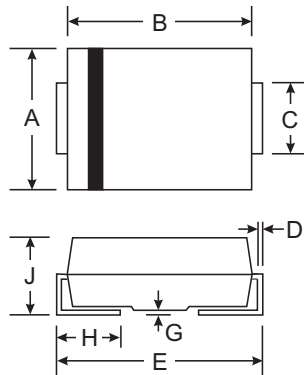
3.0A Surface Mount Super-Fast Rectifier

Features

- Plastic package has underwrites laboratory flammability Classification 94V-0
- Glass passivated chip junction
- Built-in strain relief,
- Fast switching speed for high efficiency
- High temperature soldering guaranteed:
260°C/10 seconds

Mechanical Data

- Case: JEDED DO-214AB transfer molded plastic
- Terminals: Solder plated, solderable per
- MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.007 ounce, 0.25 gram



SMC		
Dim	Min	Max
A	5.59	6.22
B	6.60	7.11
C	2.75	3.18
D	0.15	0.31
E	7.75	8.13
G	0.10	0.20
H	0.76	1.52
J	2.00	2.62
All Dimensions in mm		

Maximum Ratings @ T_A = 25°C unless otherwise specified

- Single phase, half wave, 60Hz, resistive or inductive load.
- For capacitive load derate current by 20%.

		SYMBOLS	ES3A	ES3B	ES3C	ES3D	ES3E	ES3G	ES3J	UNIT
Maximum Repetitive Peak Reverse Voltage		V _{RRM}	50	100	150	200	300	400	600	Volts
Maximum RMS Voltage		V _{RMS}	35	70	105	140	210	280	420	Volts
Maximum DC Blocking Voltage		V _{DC}	50	100	150	200	300	400	600	Volts
Maximum Average Forward Rectified Current at T _L =100		I _(AV)	3.0							Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)		I _{FSM}	100							Amps
Maximum Instantaneous Forward Voltage @ 3.0A		V _F	0.95			1.25	1.7			Volts
Maximum DC Reverse Current at rated DC Blocking Voltage per element	T _A = 25	I _R	5.0							A
	T _A = 125		300							
Typical Reverse Recovery Time Test conditions I _F =0.5A, I _R =1.0A, I _{RR} =0.25A		t _{tr}	35							nS
Typical Junction Capacitance (Measured at 1.0MHz and applied reverse voltage of 4.0V)		C _J	45				30			pF
Typical Thermal Resistance (Note 1)		R _{θJA}	55							/W
		R _{θJL}	17							
Operating Junction Temperature Range		T _J	(-55 to +150)							
Storage Temperature Range		T _{STG}	(-55 to +150)							

Notes:

1. Thermal resistance from Junction to ambient and from junction to lead mounted on P.C.B. with 0.3"×0.3"(8.0mm × 8.0mm) copper pad areas.



FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

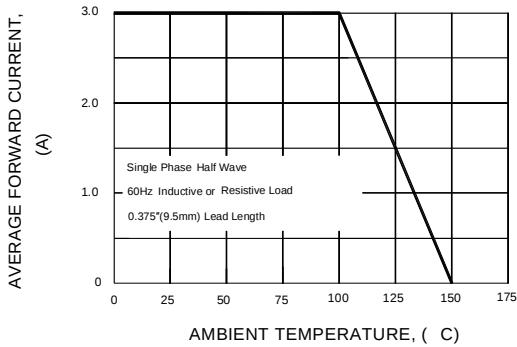


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

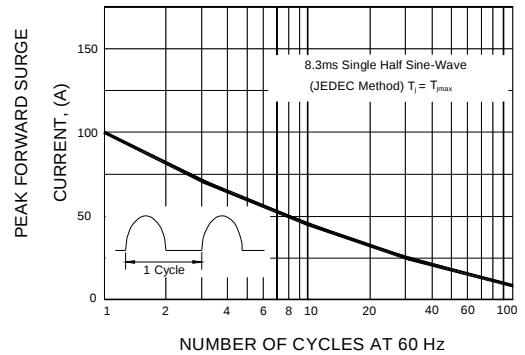


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

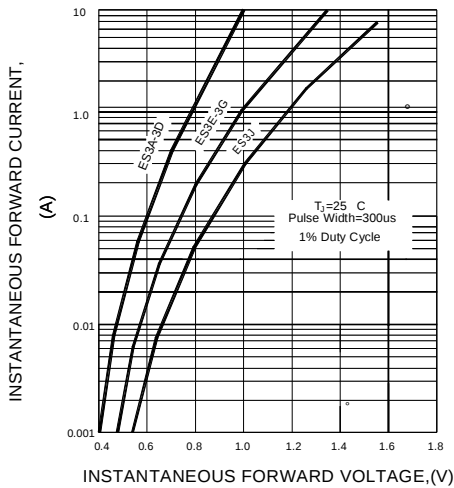


FIG.4-TYPICAL REVERSE CHARACTERISTICS

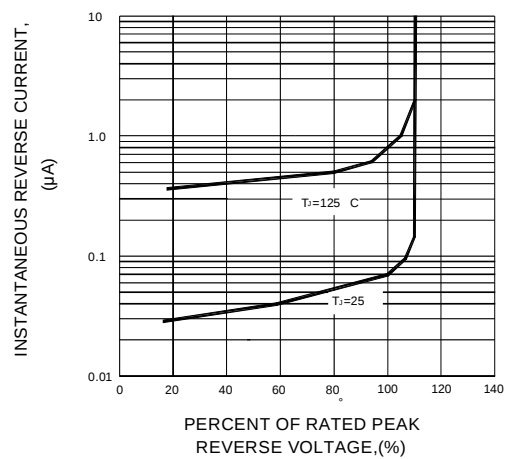


FIG.5-TYPICAL JUNCTION CAPACITANCE

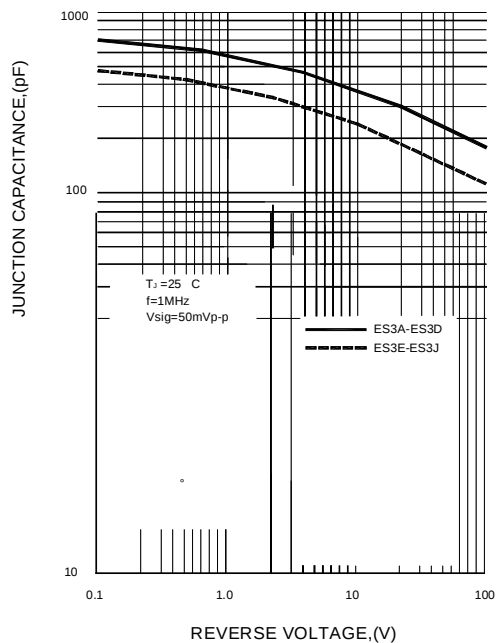
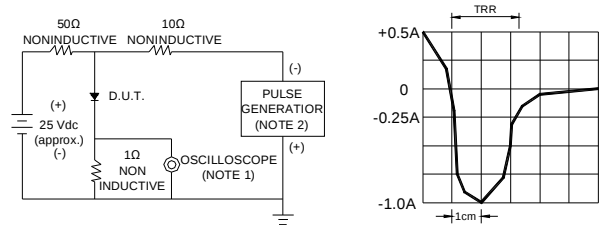


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES : 1.Rise Time=7ns max. Input Impedance=

SET TIME BASE FOR

1 megohm. 22pF

50/100ns/cm

2.Rise time=10ns max. Source Impedance= 50 ohms