SEMICONDUCTOR TECHNICAL DATA

ES5A ~ ES5J

Super Fast Surface Mount Rectifiers

Reverse Voltage 50 to 1000 Volts Forward Current 5.0 Amperes

Features

- 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: 250°C/10 seconds at terminals
- Plastic material used carries Underwriters Laboratory Classification 94V-O

Mechanical Data

Cases: Molded plasticTerminals: Solder plated

Polarity: Indicated by cathode band
Weight: 0.007 ounce, 0.21 gram

DO-214AB (SMC) .121(3.07) .115(2.92) .245(6.22) .220(5.59) .280(7.11) .280(6.80) .012(.31) .008(.15)

Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%

Parameter	Symbols	ES 5A	ES 5B	ES 5C	ES 5D	ES 5F	ES 5G	ES 5J		Units
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 See Fig. 1	I _(AV)	5.0								Amps
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) @T _L =100°C	I _{FSM}	150.0								Amps
Maximum instantaneous forward voltage @ 5.0A	V _F	0.95				1	.3		1.7	Volts
	I _R	10.0 300								uA uA
Maximum reverse recovery time (Note 1)	t _{rr}	35								nS
Typical junction capacitance (Note 2)	CJ	58								pF
Typical thermal resistance (Note 3)	R _{eJA} R _{eJL}	47 12								°C/W
Operating junction temperature range	T _J	-55 to +150								°C
Storage temperature range	T _{STG}	-55 to +150								°C

Notes 1. Reverse Recovery Test Conditions: I_F =0 5A, I_R =1.0A, I_{RR} =0.25A

Revision No: 0

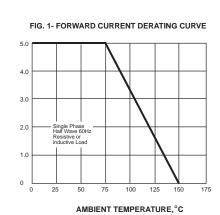
- 2. Measured at 1 MHz and Applied V_R =4 0 Volts
- 3. Units Mounted on P.C.B. with 0 31 x 0 31" (8.0 x 8.0mm) Copper Pad Areas



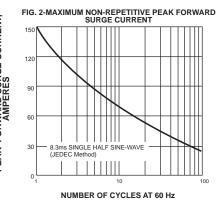


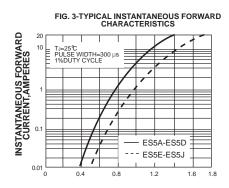
RATINGS AND CHARACTERISTIC CURVES ES5A THRU ES5J

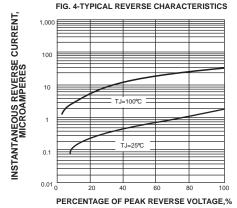
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES



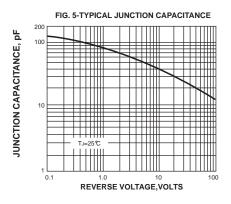




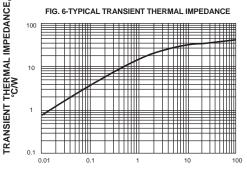




INSTANTANEOUS FORWARD VOLTAGE,







t,PULSE DURATION,sec.