



# ES5A thru ES5J

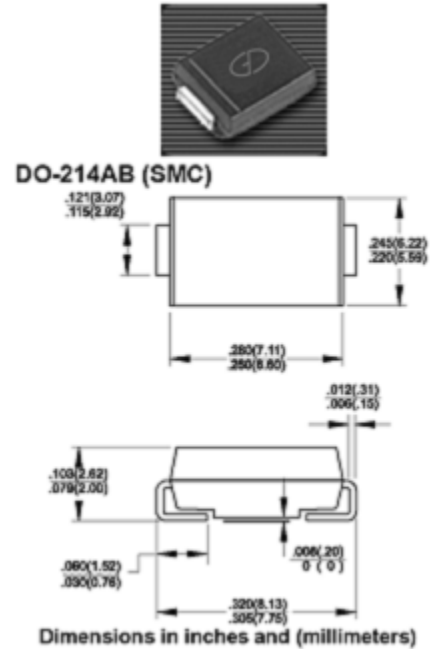
Super Fast Surface Mount Rectifiers  
Reverse Voltage 50 to 600 Volts Forward Current 5.0 Amperes

## Features

- ◆ Glass passivated junction chip
- ◆ For surface mounted application
- ◆ Low profile package
- ◆ Built-in stain relief
- ◆ Ideal for automatic 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 plastic
- ◆ Terminals: Solder plated
- ◆ Polarity: Indicated by cathode band
- ◆ Weight: 0.007 ounce, 0.21 gram



## 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 @ $T_L=110^\circ\text{C}$	$I_{(AV)}$	5.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	125.0							Amps
Maximum instantaneous forward voltage @ 5.0A DC	$V_F$	0.95			1.30		1.7		Volts
Maximum DC reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=125^\circ\text{C}$	$I_R$					5.0	350		$\mu\text{A}$ $\mu\text{A}$
Maximum reverse recovery time (Note 1)	$t_{rr}$					35			nS
Typical junction capacitance (Note 2)	$C_j$	50			40				pF
Typical thermal resistance (Note 3)	$R_{\theta JA} / R_{\theta JL}$					75 / 20			$^\circ\text{C/W}$
Operating junction temperature range	$T_J$					-55 to +150			$^\circ\text{C}$
Storage temperature range	$T_{STG}$					-55 to +150			$^\circ\text{C}$

**Notes:** 1. Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_S=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$

# RATINGS AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

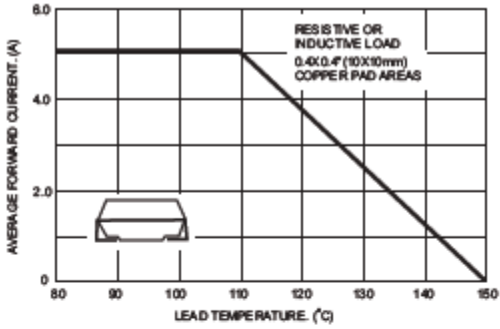


FIG.2- TYPICAL REVERSE CHARACTERISTICS

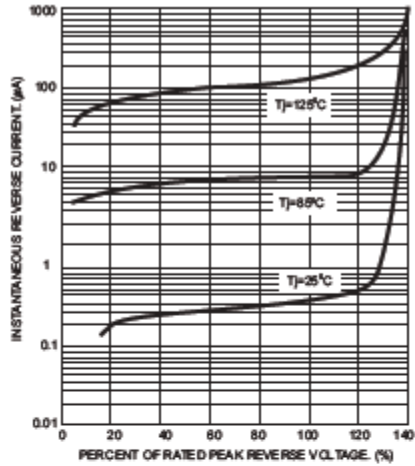


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

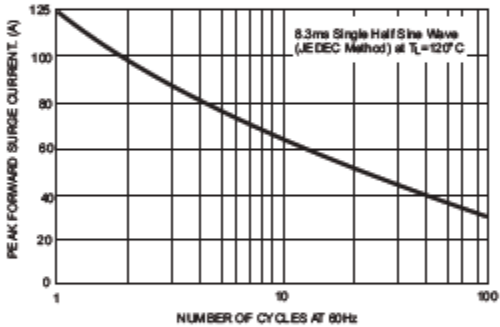


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

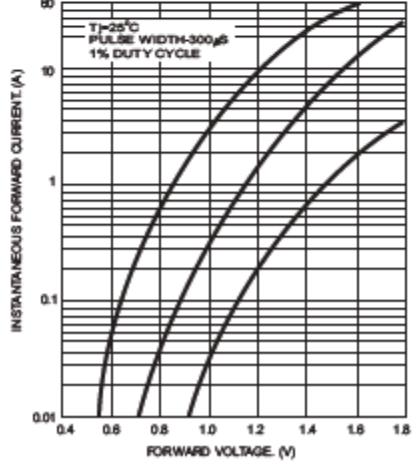


FIG.4- TYPICAL JUNCTION CAPACITANCE

