



# ES3A thru ES3M

Super Fast Surface Mount Rectifiers  
Reverse Voltage 50 to 1000 Volts Forward Current 3.0 Amperes

## Features

- ◆ Glass passivated chip
- ◆ Super fast switching for high efficiency
- ◆ For surface mounted applications
- ◆ Low forward voltage drop and high current capability
- ◆ Low reverse leakage current
- ◆ Plastic material has UL flammability classification 94V-0

## Mechanical Data

- ◆ Case : Molded plastic
- ◆ Polarity : Color band denote cathode
- ◆ Weight : 0.003 ounce, 0.093 gram

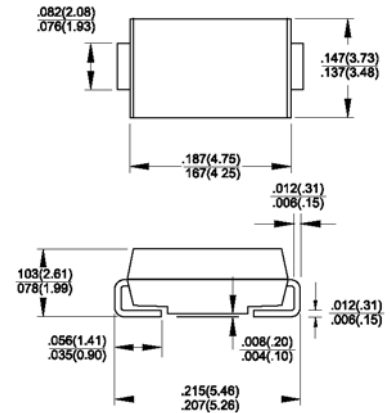
## Maximum Ratings and Electrical Characteristics

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%

### DO-214AA (SMB)



Dimensions in inches and (millimeters)

Parameter	Symbols	ES3A	ES3B	ES3C	ES3D	ES3F	ES3G	ES3J	ES3K	ES3M	Units	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	300	400	600	800	1000	Volts	
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	420	560	700	Volts	
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	300	400	600	800	1000	Volts	
Maximum average forward rectified current @ $T_L=100^\circ\text{C}$	$I_{AV}$	3.0									Amps	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	100.0									Amps	
Maximum forward voltage @ 3.0A DC	$V_F$	0.92			1.25			1.7			Volts	
Maximum DC reverse current at rated DC blocking voltage @ $T_J=25^\circ\text{C}$ @ $T_J=125^\circ\text{C}$	$I_R$					10.0 500						$\mu\text{A}$ $\mu\text{A}$
Maximum reverse recovery time (Note 1)	$t_{rr}$					25						nS
Typical junction capacitance (Note 2)	$C_j$					45						pF
Typical thermal resistance (Note 3) (Note 4)	$R_{\theta JL}$ $R_{\theta JA}$					10 50						$^\circ\text{C/W}$
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:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$
  2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
  3. Thermal Resistance junction to Lead.
  4. Thermal Resistance junction to Ambient.

# RATINGS AND CHARACTERISTIC CURVES



FIG.1 - FORWARD CURRENT DERATING CURVE

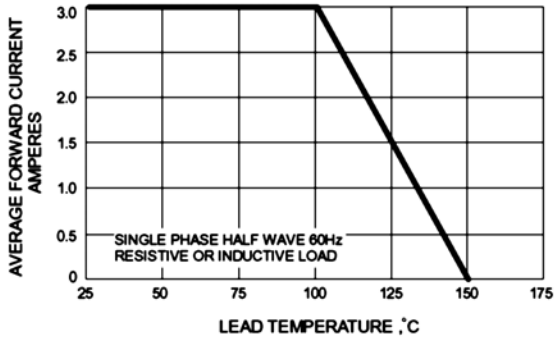


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

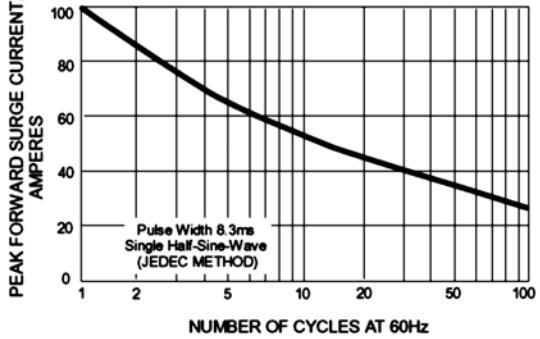


FIG.3 - TYPICAL FORWARD CHARACTERISTICS

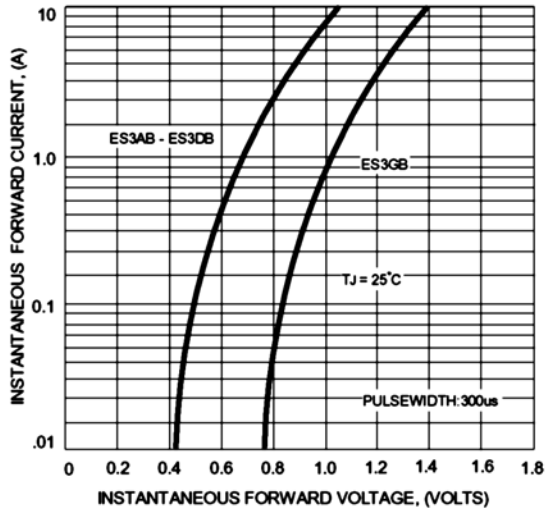


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

