

## 1.0A Surface Mount Super Fast Rectifier

### Features

- Low profile surface mounted package
- Glass passivated junction
- Ultra fast recovery time for high efficiency
- Plastic package has underwriters laboratory flammability classification 94V-0
- High temperature soldering: 250 °C /10 seconds at terminals
- RoHS compliant



SMA



### Mechanical Data

<b>Case:</b>	JEDEC DO-214AC molded plastic
<b>Terminals:</b>	Solder plated, solderable per MIL-STD-750, Method 2026
<b>Polarity:</b>	Cathode end indicated by color band
<b>Weight:</b>	0.002 Ounce, 0.064 gram

### Maximum Ratings ( $T_{Ambient}=25^{\circ}C$ unless noted)

Symbol	Description	ES1A	ES1B	ES1D	ES1F	ES1G	ES1J	ES1K	Unit	Conditions	
<b>VRRM</b>	Maximum Repetitive Peak Reverse Voltage	50	100	200	300	400	600	800	V		
<b>VRMS</b>	Maximum RMS Voltage	35	70	140	210	280	420	560	V		
<b>VDC</b>	Maximum DC Blocking Voltage	50	100	200	300	400	600	800	V		
<b>I<sub>AV</sub></b>	Maximum Average Forward Rectified Current	1.0							A	$T_L=110^{\circ}C$	
<b>I<sub>FSM</sub></b>	Peak Forward Surge Current	30							25	A	8.3ms single half sine-wave superimposed on rated load (JEDEC Method)
<b>T<sub>J</sub>, T<sub>STG</sub></b>	Operating Junction and Storage Temperature Range	-55 to 150								$^{\circ}C$	

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

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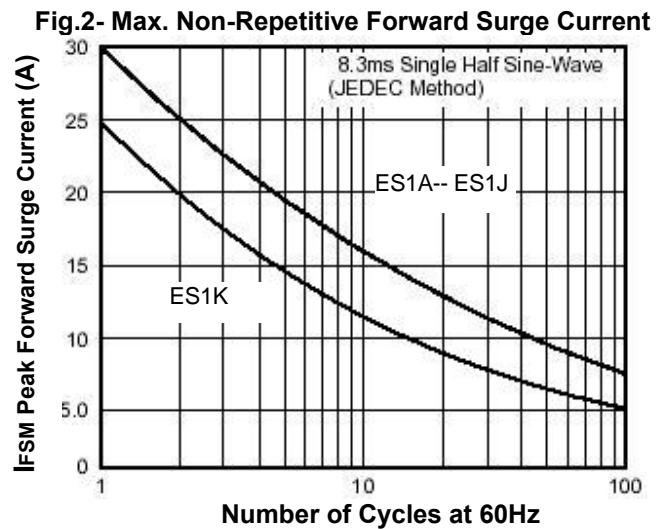
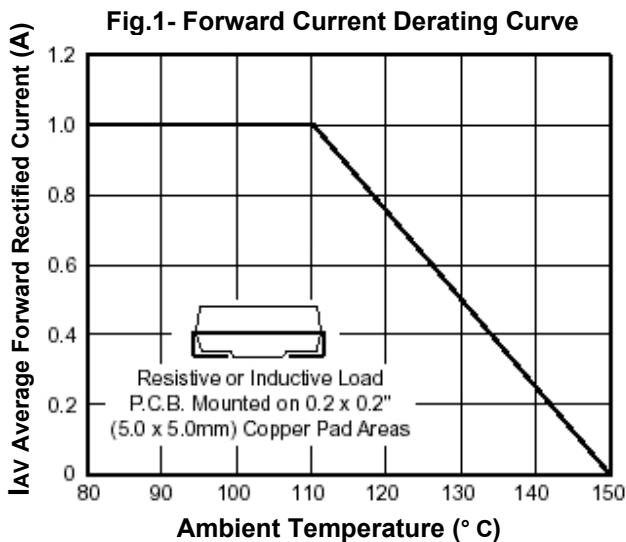
## ES1A - ES1K

### Electrical Characteristics ( $T_{Ambient}=25^{\circ}C$ unless noted)

Symbol	Description	ES1A	ES1B	ES1D	ES1F	ES1G	ES1J	ES1K	Unit	Conditions
$V_F$	Maximum Instantaneous Forward Voltage	0.95			1.25		1.7	2.2	V	$I_F=1.0$ A
$I_R$	Maximum DC Reverse Current at Rated DC Blocking Voltage	5							$\mu A$	$T_A=25^{\circ}C$
		50								$T_A=125^{\circ}C$
$T_{rr}$	Typical Reverse Recovery Time	35							nS	$I_F=0.5A$ , $I_R=1.0A$ , $I_{rr}=0.25A$
$C_J$	Typical Junction Capacitance	10							pF	Measured at 1.0 MHz and Applied $V_r = 4.0$ volts.
$R_{\theta-JA}$	Maximum Thermal Resistance	34							$^{\circ}C/W$	Mounted on 0.2" x 0.2" (5mmx5mm) copper pad area

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

### Typical Characteristics Curves



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## ES1A - ES1K

Fig.3- Typical Reverse Characteristics

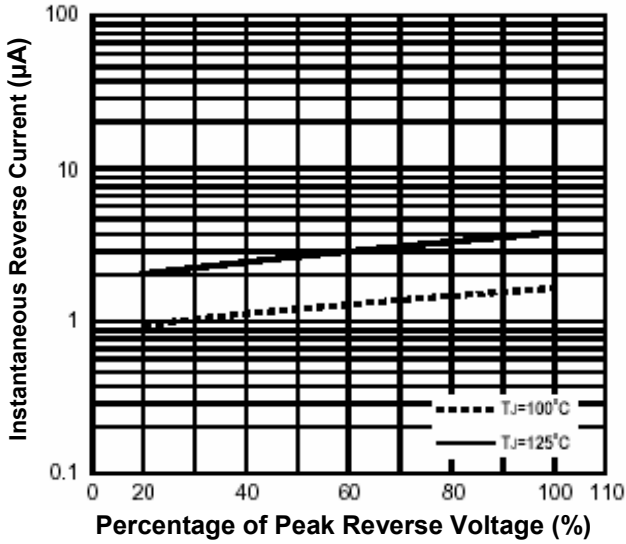
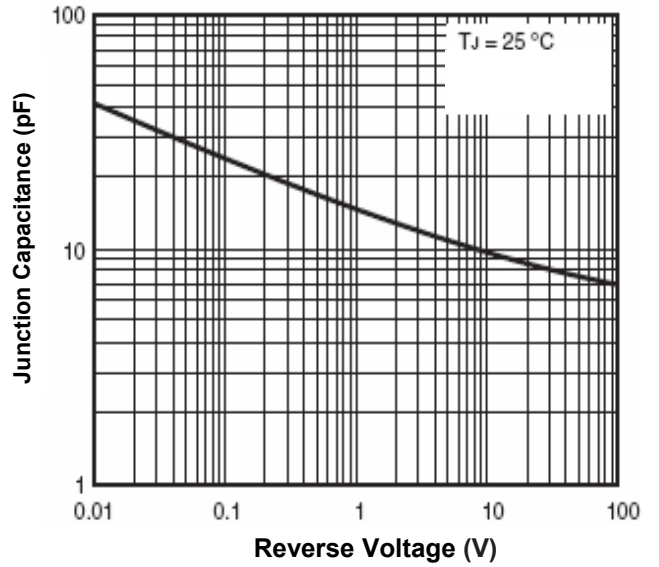
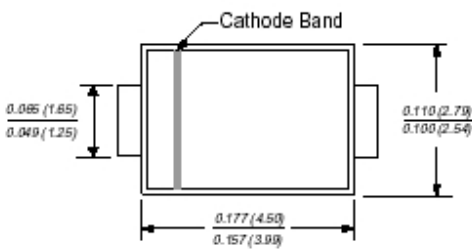


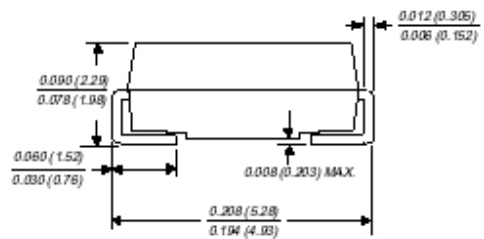
Fig.4- Junction Capacitance



### Dimensions in inch (mm)



### DO-214AC (SMA)



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ES1A - ES1K

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