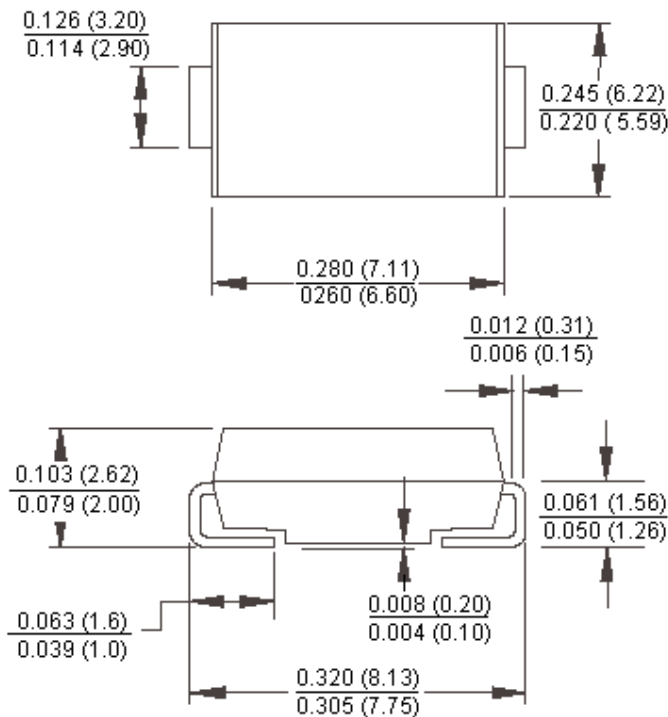




## Features:

- Glass passivated junction chip.
- For surface mounted application.
- Low profile package.
- Built-in strain relief.
- Ideal for automated placement.
- Easy pick and place.
- Super fast recovery time for high efficiency.
- Glass passivated chip junction.
- High temperature soldering: 260°C/10 seconds at terminals.
- Plastic material.

## SMC/DO-214AB



Dimensions : Inches (Millimetres)

## Mechanical Data:

Cases	: Moulded plastic.
Terminals	: Pure tin plated, lead free.
Polarity	: Indicated by cathode band.
Packing	: 16mm tape per EIA STD RS-481.
Weight	: 0.21 gram.

## Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

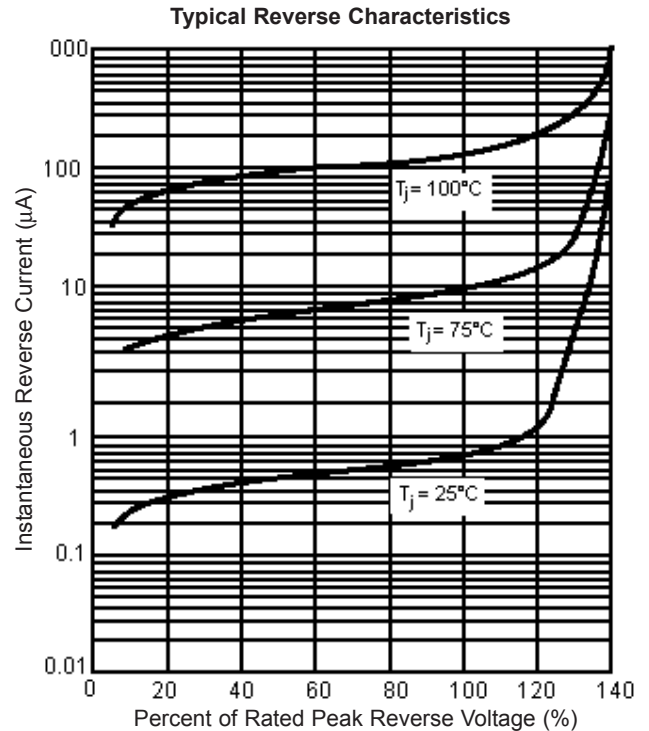
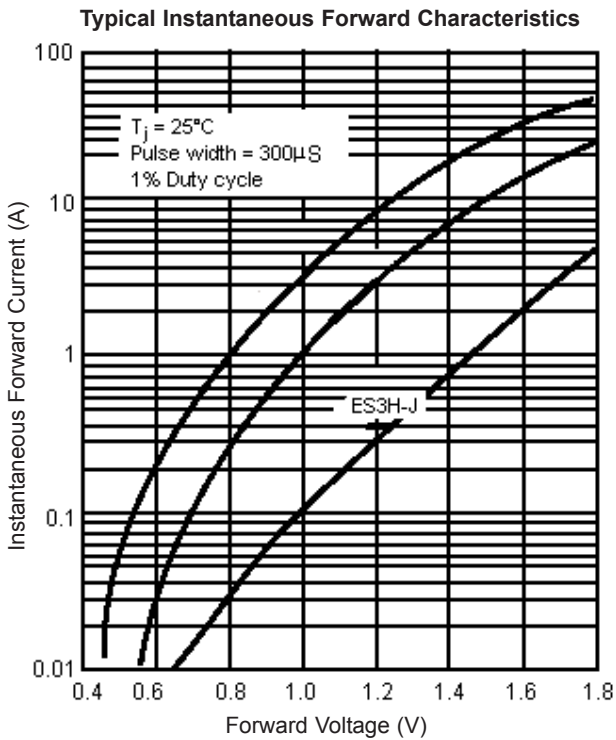
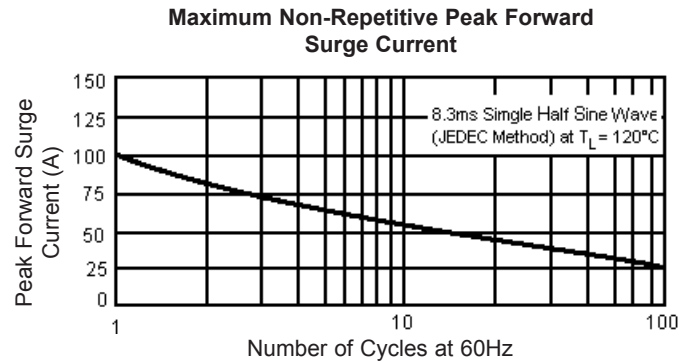
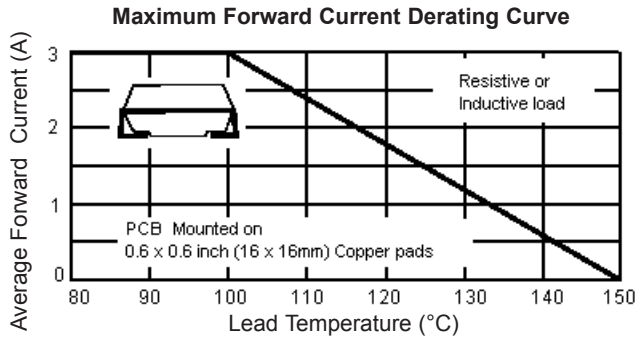
Type Number	Symbol	ES3A	ES3F	ES3H	ES3J	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	300	500	600	V
Maximum RMS Voltage	$V_{RMS}$	35	210	350	420	
Maximum DC Blocking Voltage	$V_{DC}$	50	300	500	600	
Maximum Average Forward Rectified Current	$I_{(AV)}$	3.0				A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) at $T_L = 100^\circ\text{C}$	$I_{FSM}$	100				
Maximum Instantaneous Forward Voltage at 3.0A	$V_F$	0.95	1.3	1.7	v	
Maximum DC Reverse Current at $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage at $T_A = 100^\circ\text{C}$	$I_R$	10 500				$\mu\text{A}$ $\mu\text{A}$
Maximum Reverse Recovery Time (Note 1)	$T_{rr}$	35				nS
Typical Junction Capacitance ( Note 2 )	$C_j$	45	30			pF
Maximum Thermal Resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JL}$	47 12				$^\circ\text{C/W}$
Operating Temperature Range	$T_J$	-55 to +150				$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$					

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

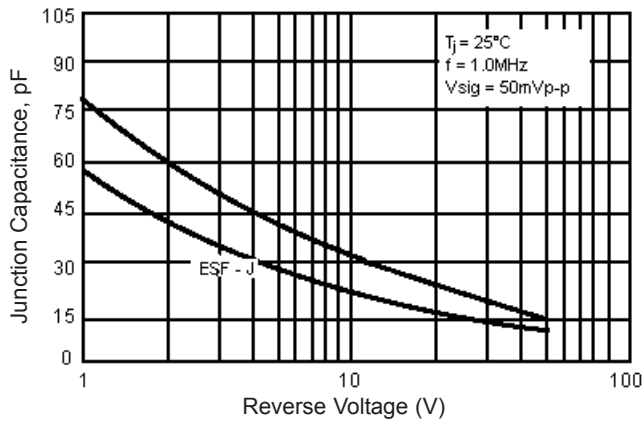
2. Measured at 1MHz and Applied  $V_R = 4.0$  Volts.

3. Units Mounted on PCB with 0.6 x 0.6 Inches (16mm x 16mm) Copper Pad Areas.

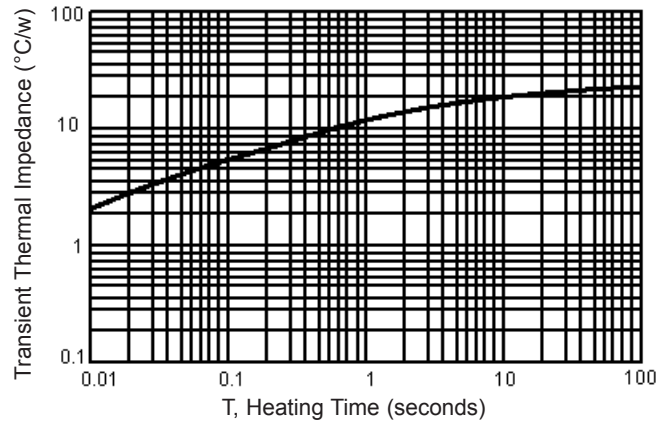
## Ratings and Characteristic Curves (ES3A, ES3F, ES3H and ES3J)



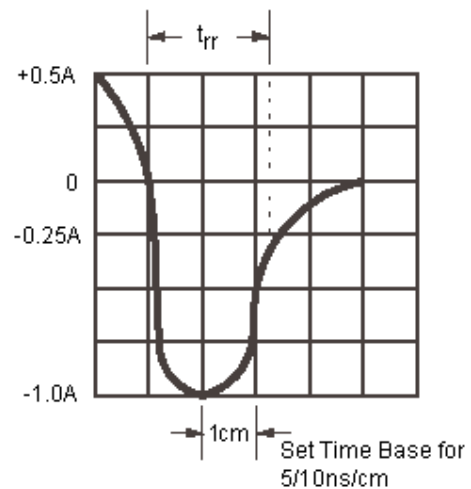
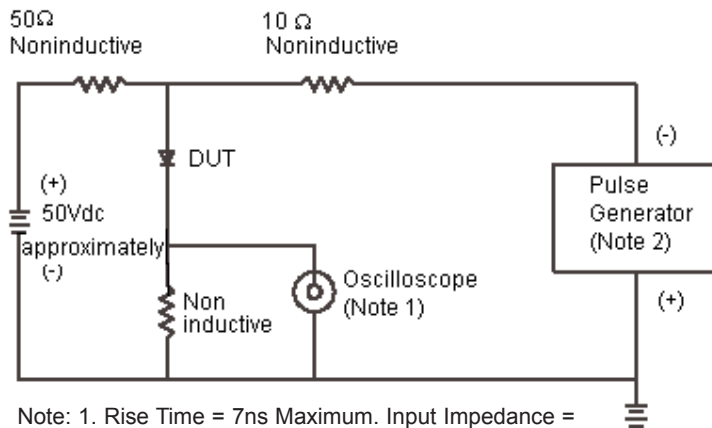
Typical Junction Capacitance



Typical Transient Thermal Impedance



Reverse Recovery Time Characteristic and Test Circuit Diagram



Note: 1. Rise Time = 7ns Maximum. Input Impedance = 1 Megohm 22pf  
 2. Rise Time = 10ns Maximum Source Impedance = 50 ohms

## Part Number Table

Description	Part Number
Diode, Ultra-Fast, 3A, 50V	ES3A
Diode, Ultra-Fast, 3A, 300V	ES2F
Diode, Ultra-Fast, 3A, 500V	ES3H
Diode, Ultra-Fast, 3A, 600V	ES3J

## Notes:

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