

# Diode Ultra Fast



RoHS  
Compliant



## 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

## Specifications:

### 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	: 0.21g

## 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%.

Characteristics	Symbol	Values	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	600	V
Maximum RMS Voltage	$V_{RMS}$	420	
Maximum DC Blocking Voltage	$V_{DC}$	600	
Maximum Average Forward Rectified Current	$I_{(AV)}$	3	A
Peak Forward Surge Current, 8.3ms A Single Half Sine-wave Superimposed on Rated Load (JEDEC method) at TL = 100°C	$I_{FSM}$	100	
Maximum Instantaneous Forward Voltage at 3.0A	$V_F$	1.7	V
Maximum DC Reverse Current at TA = 25°C at Rated DC Blocking Voltage at TA = 100°C	$I_R$	10 500	$\mu A$ $\mu A$
Maximum Reverse Recovery Time (Note 1)	$T_{rr}$	35	nS
Typical Junction Capacitance ( Note 2 )	$C_j$	30	pF
Maximum Thermal Resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JL}$	47 12	°C/W
Operating Temperature Range	$T_J$	-55 to +150	°C
Storage Temperature Range	$T_T$		

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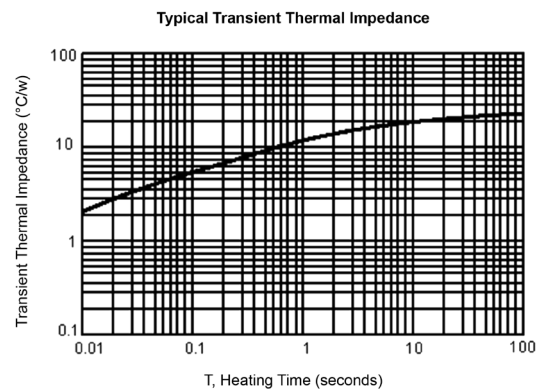
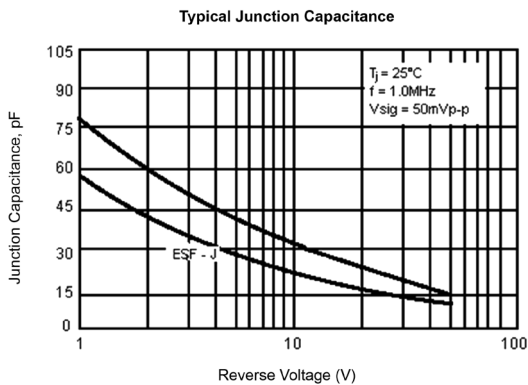
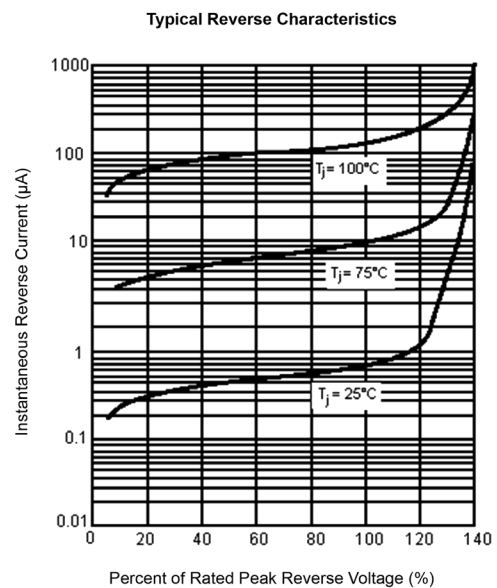
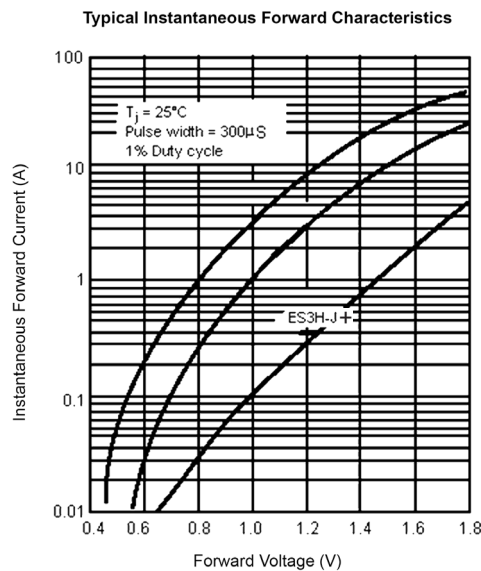
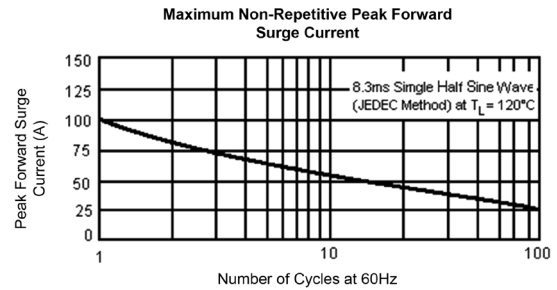
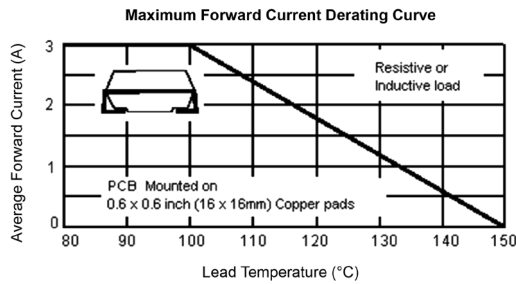
# Diode Ultra Fast



## Notes:

1. Reverse Recovery Test Conditions:  $I_F = 0.5A$ ,  $I_R = 1.0A$ ,  $I_{RR} = 0.25A$ .
2. Measured at 1MHz and Applied  $V_R = 4V$ .
3. Units Mounted on PCB with  $0.6" \times 0.6"$  ( $16mm \times 16mm$ ) Copper Pad Areas.

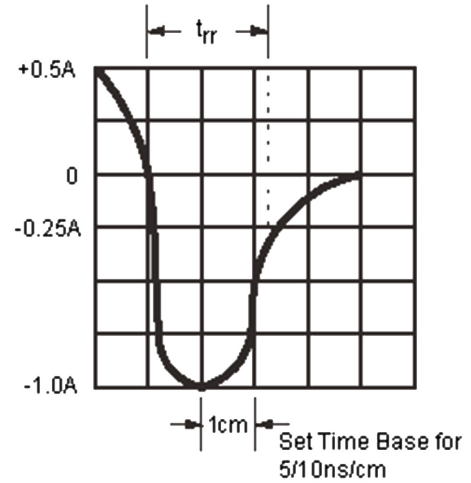
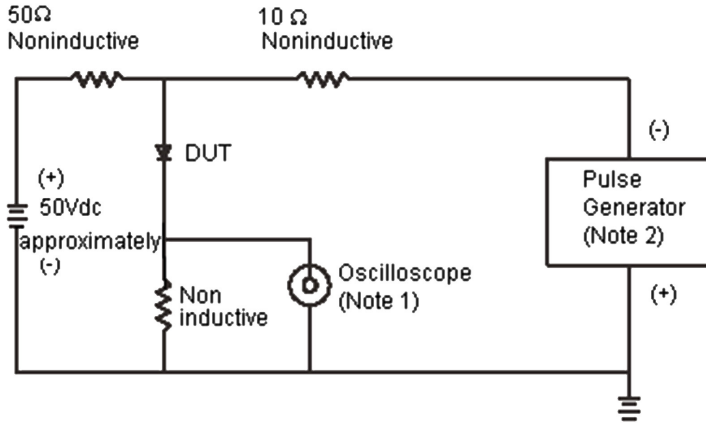
## Ratings and Characteristic Curves



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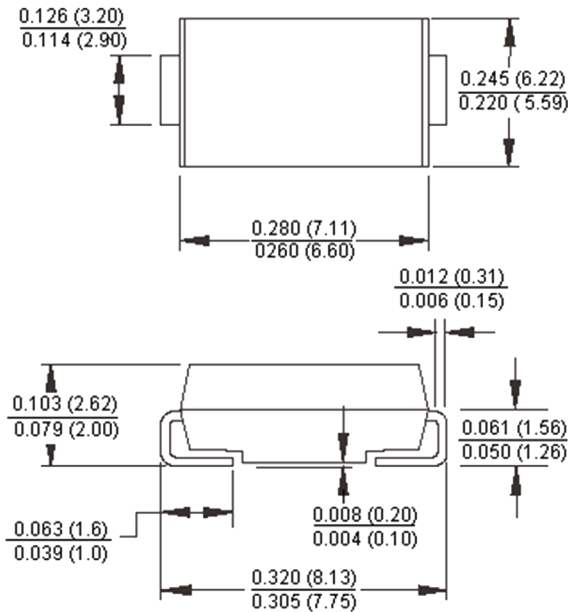


Reverse Recovery Time Characteristic and Test Circuit Diagram



**Note: 1.** Rise Time = 7ns Maximum. Input Impedance = 1 MΩ 22pf  
**Note: 2.** Rise Time = 10ns Maximum Source Impedance = 50Ω

## SMC/DO-214AB



Dimensions : Inches (Millimetres)

## Part Number Table

Description	Part Number
Diode, Ultra-Fast, 3A, 600V	ES3J+

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