



## Features:

- Low Cost
- Low Leakage
- Low Forward Voltage Drop
- High Current Capability
- Easily Cleaned With Alcohol, Isopropanol And Similar Solvents

## Mechanical Data:

- Case : JEDEC DO-214AA, molded plastic
- Terminals : Solderable per MIL- STD-202, Method 208
- Polarity : Colour band denotes cathode
- Weight : 0.003oz, 0.093g
- Mounting position : Any

## 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 by 20%.

Characteristics	Symbol	ES3BB-13-F	ES3DB-13-F	Units
Maximum recurrent peak reverse voltage	$V_{RRM}$	100	200	V
Maximum RMS voltage	$V_{RMS}$	70	140	V
Maximum DC blocking voltage	$V_{DC}$	100	200	V
Maximum average forward rectified current at $T_A=100^\circ\text{C}$	$I_{F(AV)}$	3		A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load at $T_J=125^\circ\text{C}$	$I_{FSM}$	100		A
Maximum instantaneous forward voltage at 3A	$V_F$	0.95		V
Maximum reverse current at $T_A=25^\circ\text{C}$ at rated DC blocking voltage at $T_A=125^\circ\text{C}$	$I_R$	10 500		$\mu\text{A}$
Typical reverse recovery time (Note 1)	$t_{rr}$	35		nS
Typical junction capacitance (Note 2)	$C_j$	45		pF
Typical thermal resistance (Note 3)	$R_{\theta JA}$	40		$^\circ\text{C/W}$
Operating / Storage junction temperature range	$T_J, T_{STG}$	-55 to +150		$^\circ\text{C}$

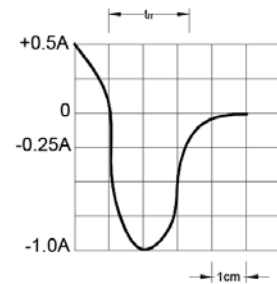
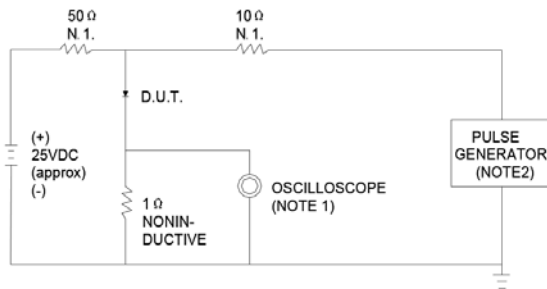
### Note:

(1) Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{rr}=0.25\text{A}$ .

(2) Measured at 1MHz and applied reverse voltage of 4V DC.

(3) Thermal resistance from junction to ambient and junction to lead PCB mounted on  $0.27'' \times 0.27''$  ( $7 \times 7\text{mm}^2$ ) copper pad areas.

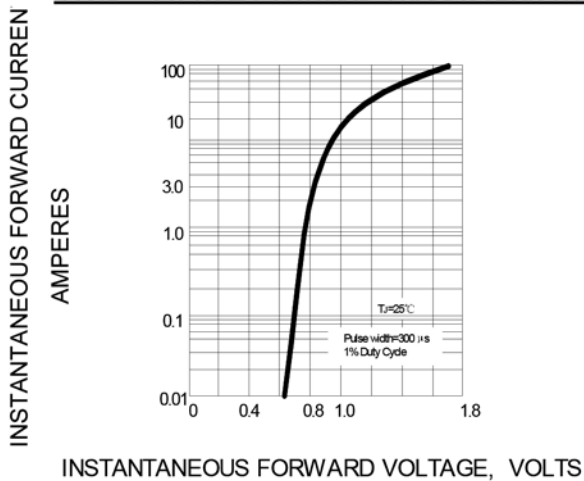
**FIG.1 -- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**



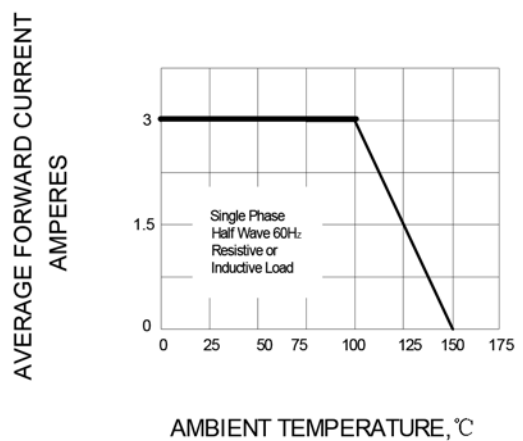
NOTES: 1. RISE TIME = 7ns MAX. INPUT IMPEDANCE = 1MΩ .22pF.  
 2. RISE TIME = 10ns MAX. SOURCE IMPEDANCE = 50 Ω .

SET TIME BASE FOR 10/15 ns/cm

**FIG.2 -- TYPICAL FORWARD CHARACTERISTIC**



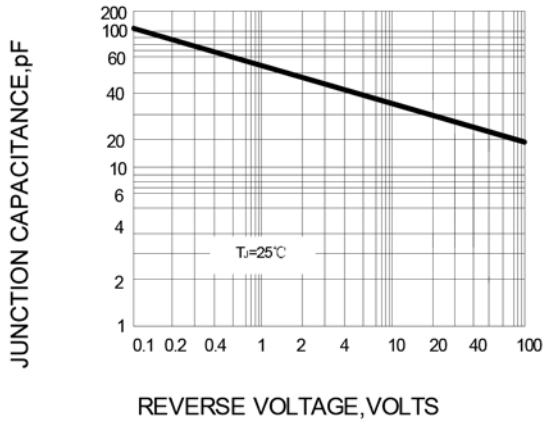
**FIG.3 -- FORWARD DERATING CURVE**



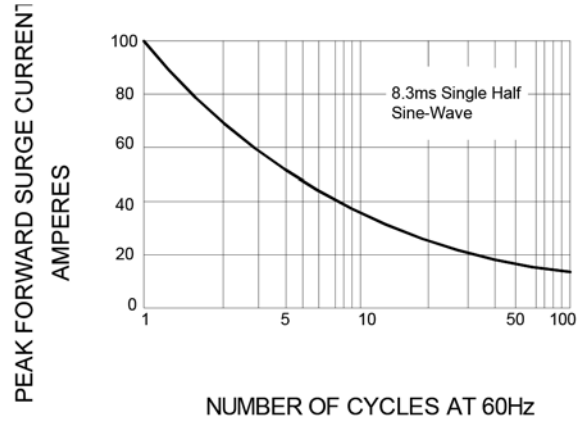
# Surface Mount Rectifier



**FIG.4 -- TYPICAL JUNCTION CAPACITANCE**

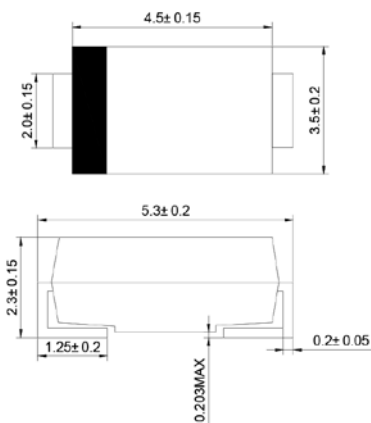


**FIG.5 -- PEAK FORWARD SURGE CURRENT**



## Dimensions:

### DO-214AA(SMB)



Dimensions : Millimetres

## Part Number Table

Description	Part Number
Surface Mount Rectifier	ES3BB-13-F
	ES3DB-13-F

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