



# ES3AB-ES3GB

Surface Mount Rectifiers

**VOLTAGE RANGE: 50 --- 400 V**

**CURRENT: 3.0 A**

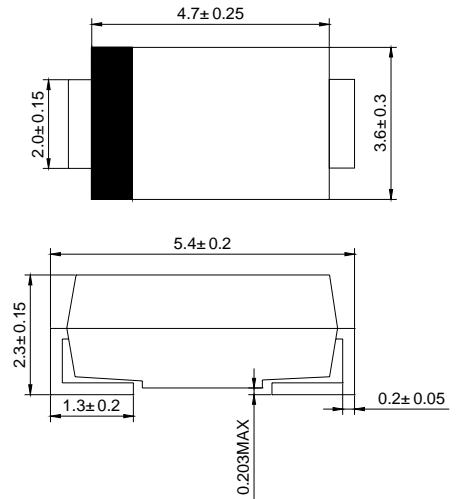
**DO-214AA(SMB)**

## Features

- ◇ Low cost
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with Alcohol, Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0

## Mechanical Data

- ◇ Case: JEDEC DO-214AA, molded plastic
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.003 ounces, 0.093 gram
- ◇ Mounting position: Any



Dimensions in millimeters

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

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

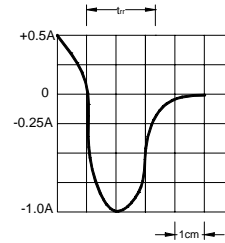
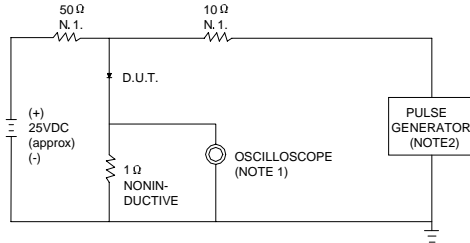
		ES3AB	ES3BB	ES3CB	ES3DB	ES3GB	UNITS
Device marking code		EA	EB	EC	ED	EG	
Maximum recurrent peak reverse voltage	$V_{RRM}$	50	100	150	200	400	V
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	280	V
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	400	V
Maximum average forward rectified current @ $T_A=100^\circ C$	$I_{F(AV)}$	3.0					A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ C$	$I_{FSM}$	100					A
Maximum instantaneous forward voltage at 3.0 A	$V_F$	0.95			1.25		V
Maximum reverse current @ $T_A=25^\circ C$ at rated DC blocking voltage @ $T_A=125^\circ C$	$I_R$	10			500		$\mu A$
Typical reverse recovery time (Note1)	$t_{rr}$	35					ns
Typical junction capacitance (Note2)	$C_J$	45					pF
Typical thermal resistance	$R_{\theta JA}$	40					$^\circ C/W$
Operating junction temperature range	$T_J$	- 55 ---- + 150					$^\circ C$
Storage temperature range	$T_{STG}$	- 55 ---- + 150					$^\circ C$

NOTE: 1. Measured with  $I_F=0.5A$ ,  $I_R=1A$ ,  $I_{rr}=0.25A$ .

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

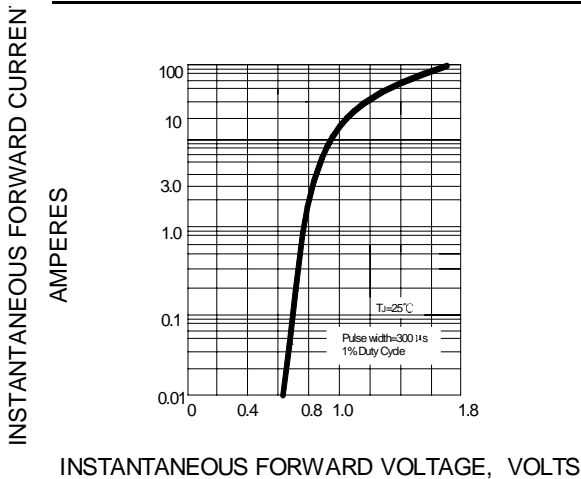
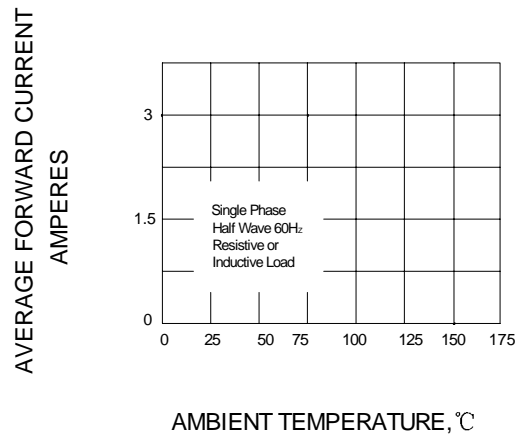
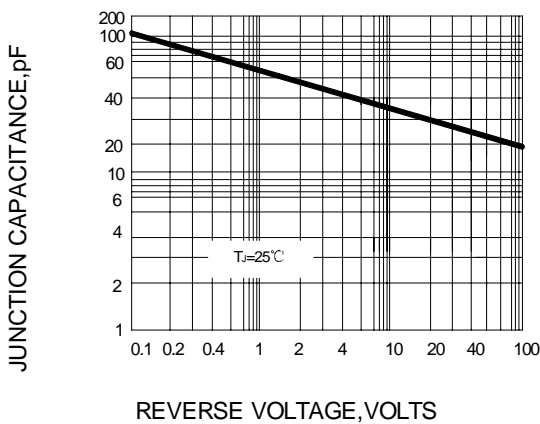
3. Thermal resistance from junction to ambient and junction to lead P.C.B. mounted on 0.27"X0.27"(7.0X7.0mm<sup>2</sup>) copper pad areas

## Ratings AND Characteristic Curves

**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 20/30 ns/cm

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

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

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

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