



ES3AB-ES3GB

Surface Mount Rectifiers

VOLTAGE RANGE: 50 --- 400 V

CURRENT: 3.0 A

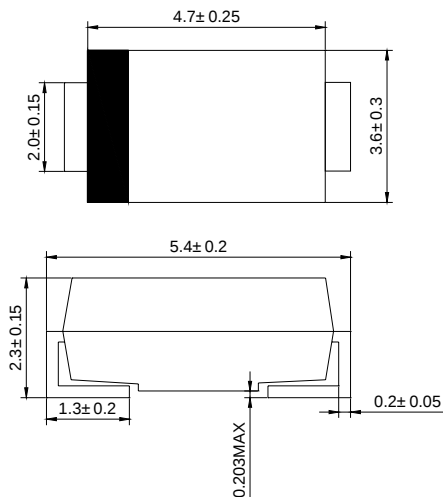
DO-214AA(SMB)

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 @ $T_A=100^\circ\text{C}$	$I_{F(AV)}$	3.0					A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$	I_{FSM}	100					A
Maximum instantaneous forward voltage at 3.0 A	V_F	0.95 1.25					V
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=125^\circ\text{C}$	I_R	10 500					μA
Typical reverse recovery time (Note1)	t_{rr}	35					ns
Typical junction capacitance (Note2)	C_J	45					pF
Typical thermal resistance	$R_{\theta JA}$	40					$^\circ\text{C/W}$
Operating junction temperature range	T_J	- 55 ---- + 150					$^\circ\text{C}$
Storage temperature range	T_{STG}	- 55 ---- + 150					$^\circ\text{C}$

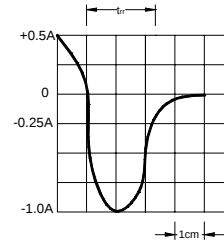
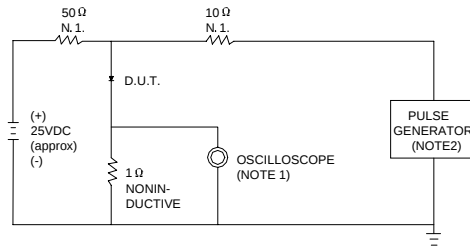
NOTE: 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $t_{rr}=0.25\text{A}$.

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"(7.0X7.0mm2) 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 = 50Ω .

SET TIME BASE FOR 20/30 ns/cm

FIG.2 -- TYPICAL FORWARD CHARACTERISTIC

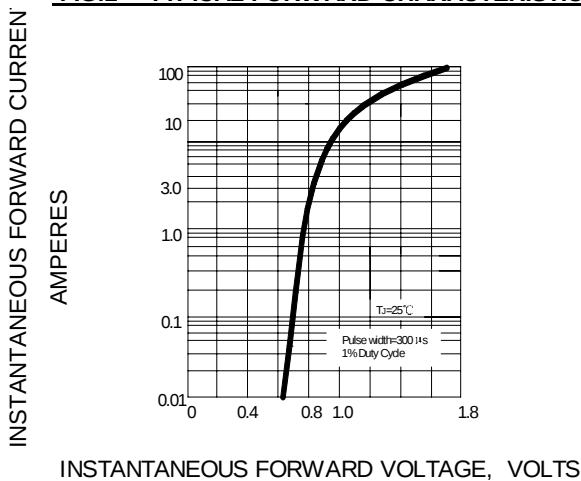


FIG.3 -- FORWARD DERATING CURVE

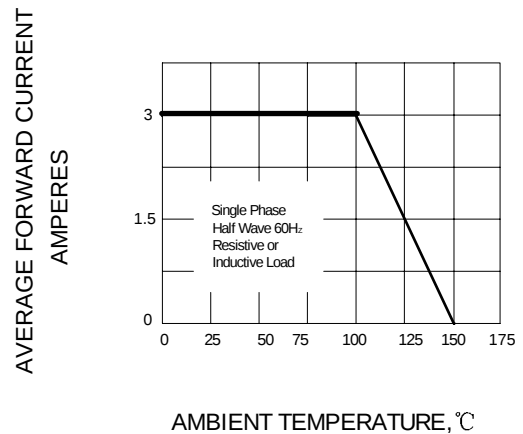


FIG.4 -- TYPICAL JUNCTION CAPACITANCE

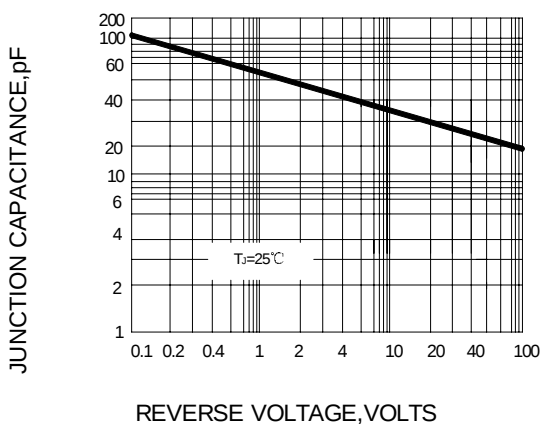


FIG.5 -- PEAK FORWARD SURGE CURRENT

