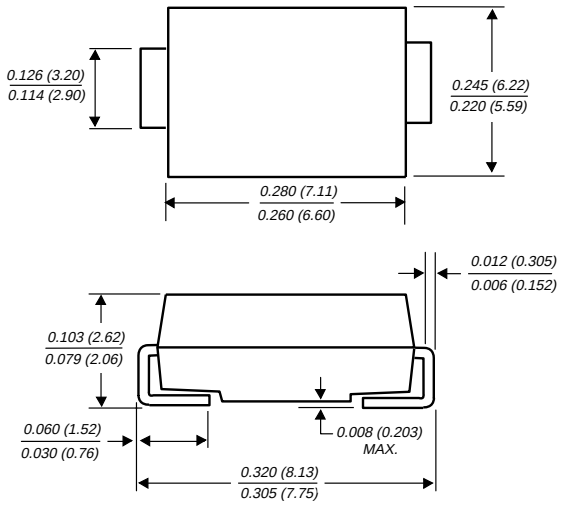
ES3A THRU ES3D

SURFACE MOUNT ULTRAFAST EFFICIENT PLASTIC RECTIFIER

***Reverse Voltage** - 50 to 200 Volts* ***Forward Current** - 3.0 Amperes*

DO-214AB



Dimensions in inches and (millimeters)

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- For surface mount applications
- Low profile package
- Built-in strain relief
- Ideal for automated placement
- Easy pick and place
- Superfast recovery time for high efficiency
- Glass passivated chip junction
- High temperature soldering: 250°C/10 seconds at terminals

MECHANICAL DATA

Case: JEDEC DO-214AB molded plastic body over passivated chip
Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Weight: 0.007 ounces, 0.21 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	ES3A	ES3B	ES3C	ES3D	UNITS
Device marking code		EA	EB	EC	ED	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	Volts
Maximum RMS voltage	V_{RMS}	35	70	105	140	Volts
Maximum DC blocking voltage	V_{DC}	50	100	150	200	Volts
Maximum average forward rectified current at T_L=100°C	$I_{(AV)}$	3.0				Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T_L=100°C	I_{FSM}	100.0				Amps
Maximum instantaneous forward voltage at 3.0A	V_F	0.90				Volts
Maximum DC reverse current at rated DC blocking voltage T_A=25°C T_A=100°C	I_R	10.0 500.0				µA
Maximum reverse recovery time (NOTE 1)	t_{rr}	20.0				ns
Maximum reverse recovery time (NOTE 2) T_J=25°C T_J=100°C	t_{rr}	30.0 50.0				ns
Maximum stored charge (NOTE 2) T_J=25°C T_J=100°C	Q_{rr}	15.0 35.0				nC
Typical junction capacitance (NOTE 3)	C_J	45.0				pF
Typical thermal resistance (NOTE 4)	$R_{\Theta JA}$ $R_{\Theta JL}$	47.0 12.0				°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150				°C

NOTES:
(1) Reverse recovery test conditions: I_F=0.5A, I_R=1.0A, I_{rr}=0.25A
(2) t_{rr} and Q_{rr} measured at: V_R=30V, di/dt=50A/µs, I_F=3.0A, and I_{rr}=10% I_R
(3) Measured at 1.0 MH_Z and applied reverse voltage of 4.0 Volts
(4) Units mounted on P.C.B. with 0.31 x 0.31" (8.0 x 8.0mm) copper pad areas

GENERAL SEMICONDUCTOR®

RATING AND CHARACTERISTIC CURVES ES3A THRU ES3D

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE

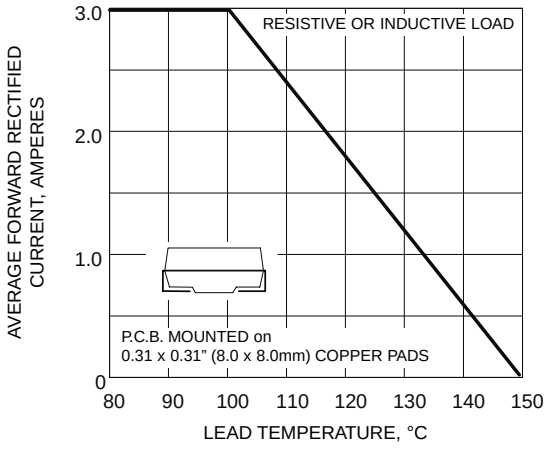


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

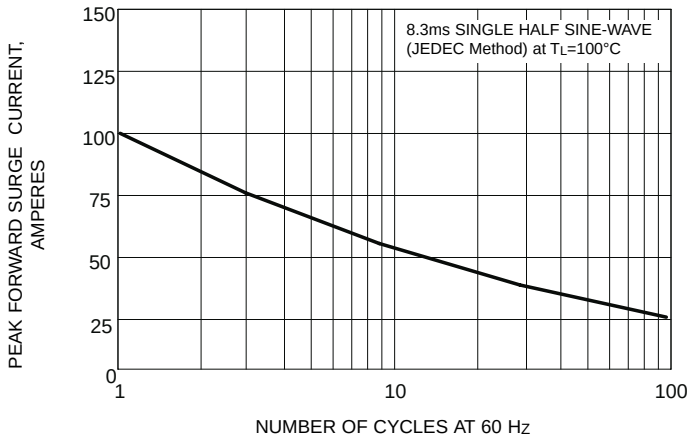


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

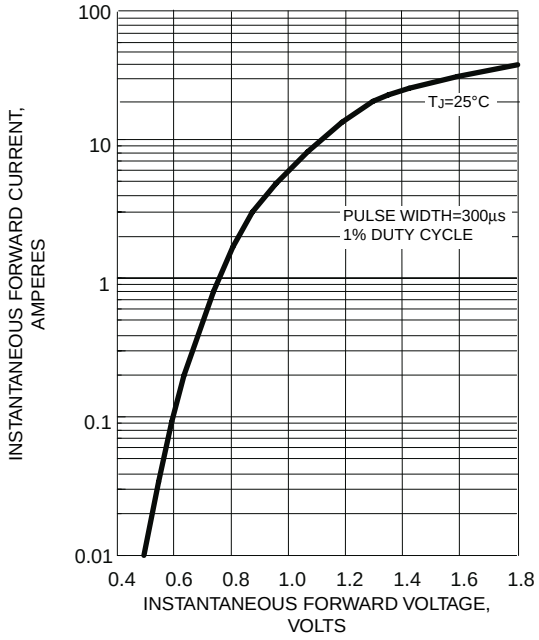


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

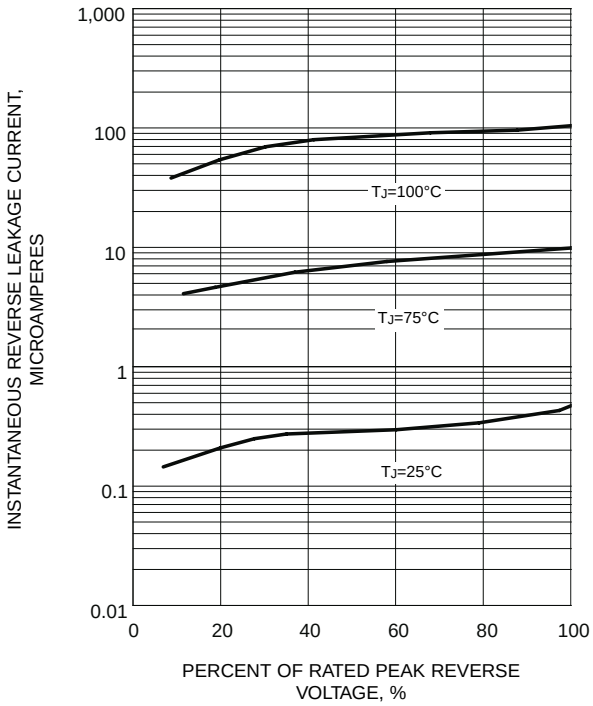
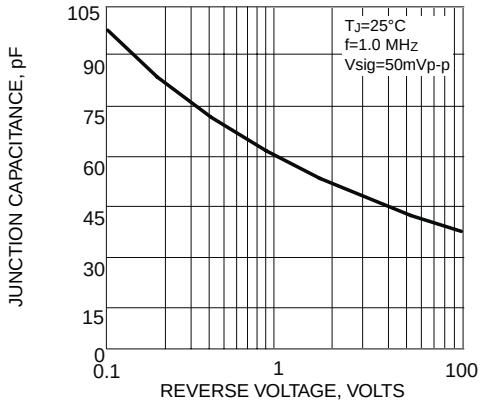


FIG. 5 - TYPICAL JUNCTION CAPACITANCE



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