

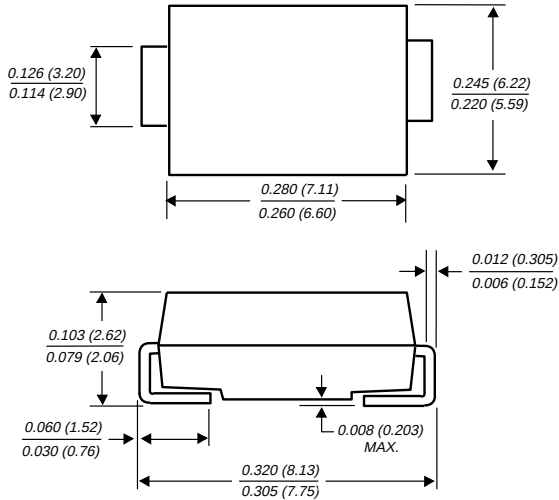
ES3A THRU ES3D

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	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 _{rr}	30.0 50.0				ns
Maximum stored charge (NOTE 2)	Q _{rr}	15.0 35.0				nC
Typical junction capacitance (NOTE 3)	C _J	45.0				pF
Typical thermal resistance (NOTE 4)	R _{θJA} R _{θJL}	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 MHz 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

RATING AND CHARACTERISTIC CURVES ES3A THRU ES3D

FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE

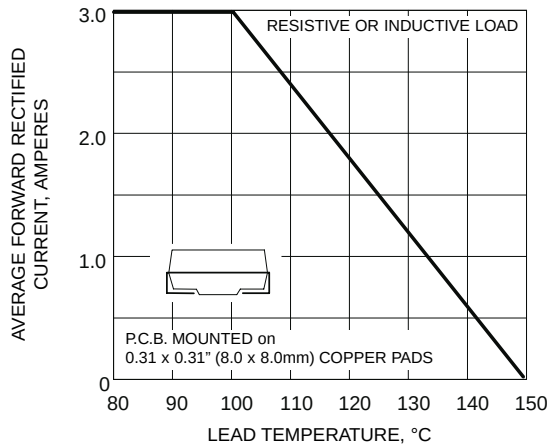


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

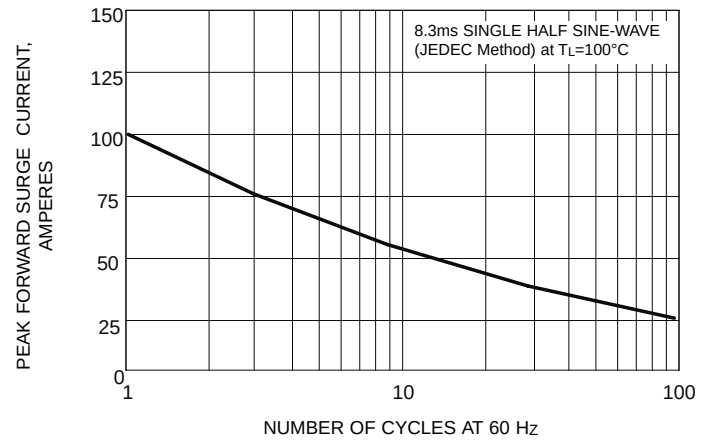


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

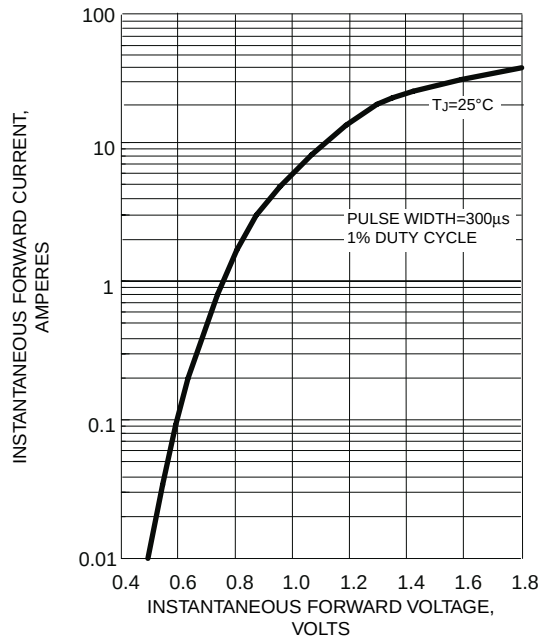


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

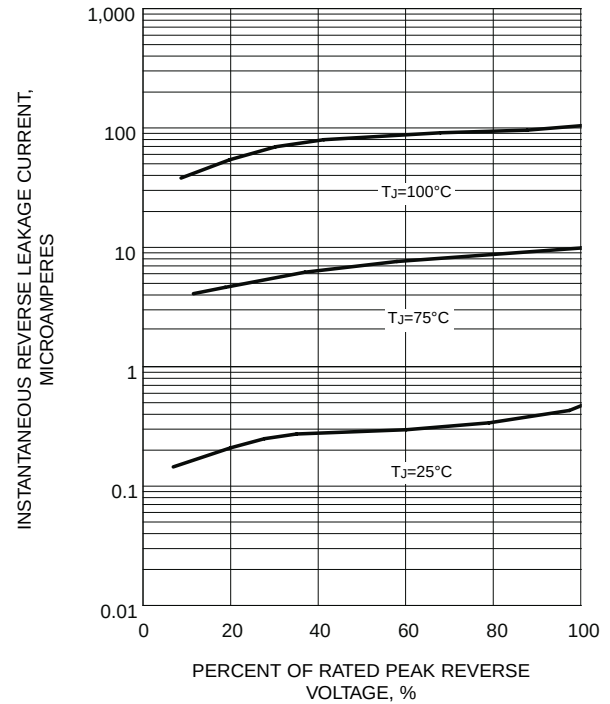


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

