



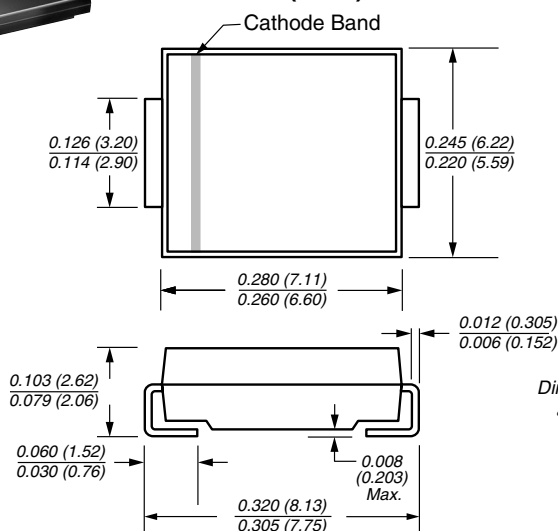
Surface Mount Ultrafast Plastic Rectifier

Reverse Voltage 50 to 200V

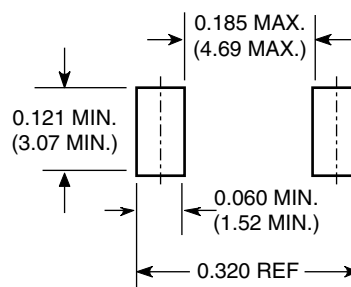
Forward Current 3.0A

Reverse Recovery Time 20ns

DO-214AB (SMC)



Mounting Pad Layout



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 ounce, 0.21 gram

Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Ideally suited for use in very high frequency switching power supplies, inverters and as free wheeling diodes
- Ultrafast recovery time for high efficiency
- Excellent high temperature switching
- Glass passivated junction
- High temperature soldering guaranteed: 250°C/10 seconds, at terminals

Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	ES3A	ES3B	ES3C	ES3D	Unit
Device marking code		EA	EB	EC	ED	
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	150	200	V
Maximum RMS voltage	V _{RMS}	35	70	105	140	V
Maximum DC blocking voltage	V _{DC}	50	100	150	200	V
Maximum average forward rectified current at T _L = 100°C	I _{F(AV)}	3.0				A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	100				A
Typical thermal resistance ⁽¹⁾	R _{θJA} R _{θJL}	47 12				°C/W
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150°C				°C

Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Maximum instantaneous forward voltage at 3.0A ⁽²⁾	V _F	0.90	V
Maximum DC reverse current at rated DC blocking voltage	I _R	10 500	μA
Maximum reverse recovery time I _F = 0.5A, I _R = 1.0A, I _{rr} = 0.25A	t _{rr}	20	ns
Maximum reverse recovery time I _F = 3.0A, V _R = 30V, di/dt = 50μs, I _{rr} = 10% I _{RM}	t _{rr}	30 50	ns
Maximum stored charge I _F = 3.0A, V _R = 30V, di/dt = 50μs, I _{rr} = 10% I _{RM}	Q _{rr}	15 35	nC
Typical junction capacitance at 4.0V, 1MHz	C _J	45	pF

Notes: (1) Units mounted on P.C.B. with 0.31 x 0.31" (8.0 x 8.0mm) copper pad areas
 (2) Pulse test: 300μs pulse width, 1% duty cycle

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Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Fig. 1 – Maximum Forward Current Derating Curve

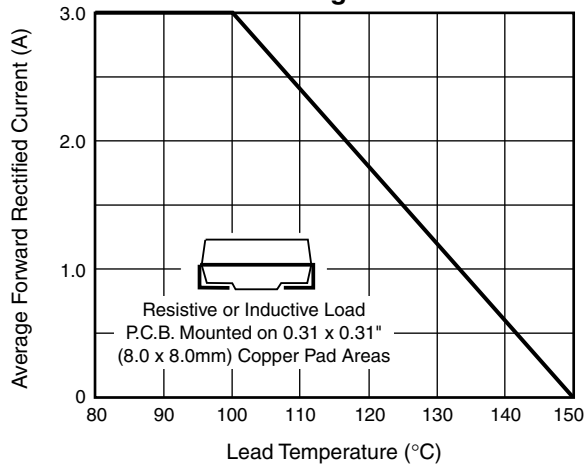


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

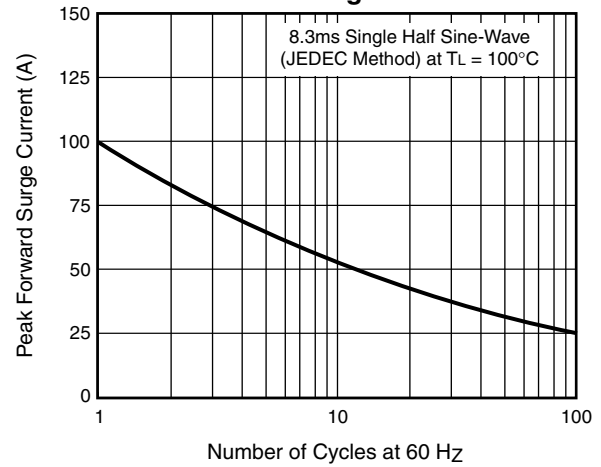


Fig. 3 – Typical Instantaneous Forward Characteristics

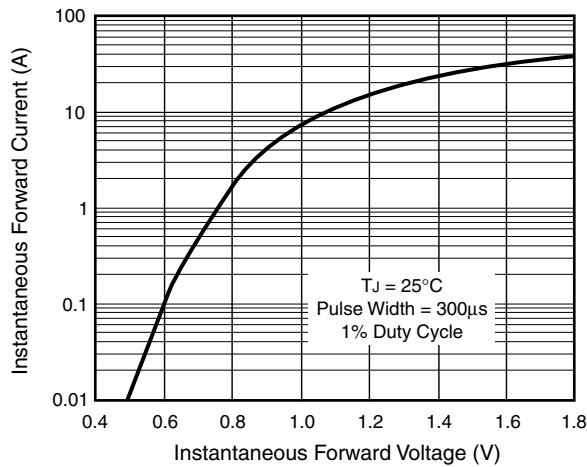


Fig. 4 – Typical Reverse Leakage Characteristics

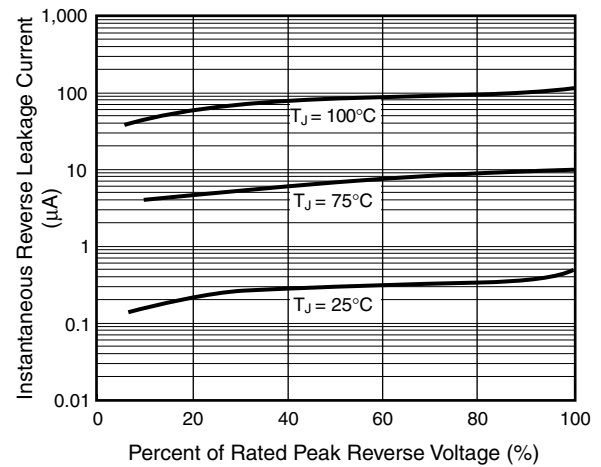


Fig. 5 – Typical Junction Capacitance

