

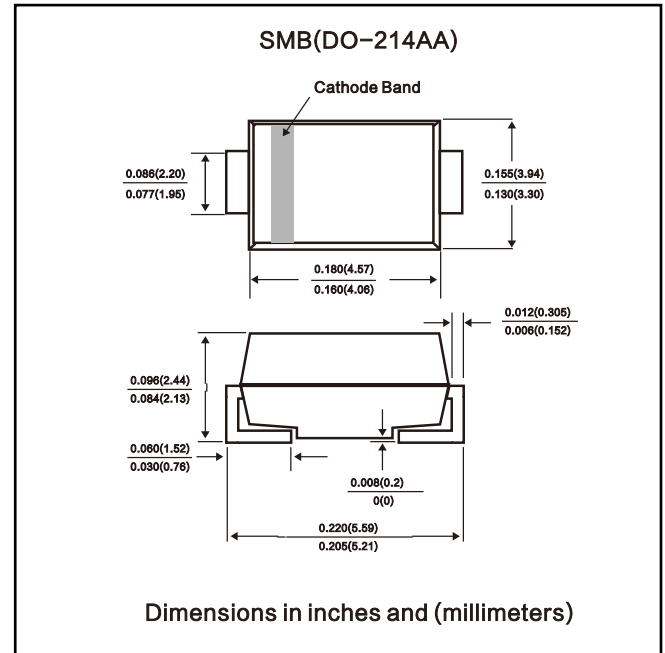
Surface Mount Super Fast Rectifier

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: SMB/DO-214AA, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.093 grams (approx.)



Maximum Ratings and Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise specified

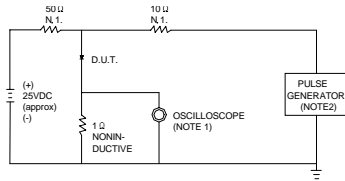
Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	ER3A	ER3B	ER3C	ER3D	ER3E	ER3G	ER3J	Unit
Maximum recurrent peak reverse voltage	V_{RRM}	50	100	150	200	300	400	600	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	420	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	600	V
Maximum average forward rectified current @ $T_A=75^\circ\text{C}$	$I_{F(AV)}$	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 @ 3.0A	V_F	0.95			1.25		1.7	V	
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=125^\circ\text{C}$	I_R	5.0				300			μA
Maximum reverse recovery time (Note 1)	t_{rr}	35				ns			
Typical junction capacitance (Note 2)	C_J	95				pF			
Typical thermal resistance (Note 3)	$R_{\theta JA}$	40				$^\circ\text{C/W}$			
Operating junction temperature range	T_J	- 55 ----- + 150							$^\circ\text{C}$
Storage temperature range	T_{STG}	- 55 ----- + 150							$^\circ\text{C}$

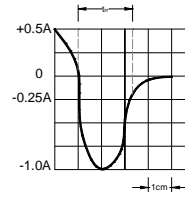
NOTE: 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $I_{rr}=0.25\text{A}$.
 2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
 3. Thermal resistance junction to ambient.

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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 10 ns/cm

FIG.2 – TYPICAL FORWARD CHARACTERISTIC

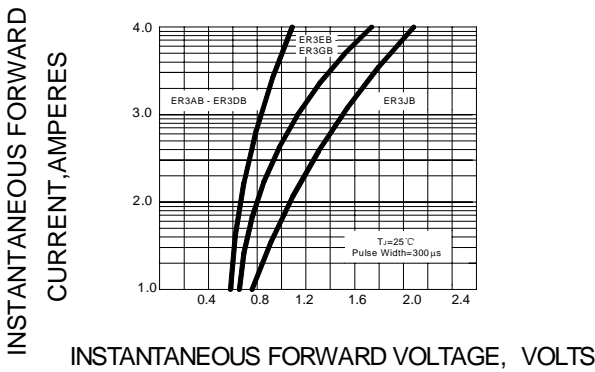


FIG.3 – FORWARD DERATING CURVE

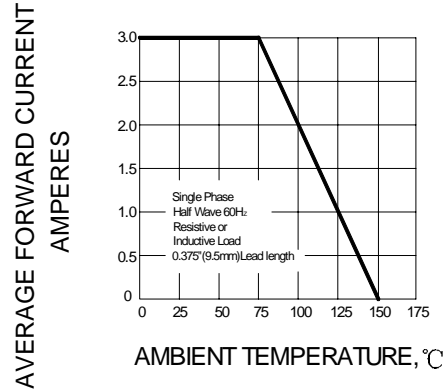


FIG.4 – TYPICAL JUNCTION CAPACITANCE

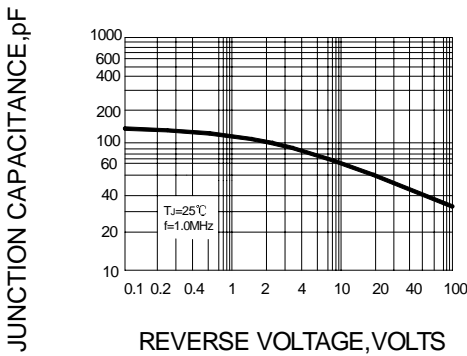


FIG.5 – PEAK FORWARD SURGE CURRENT

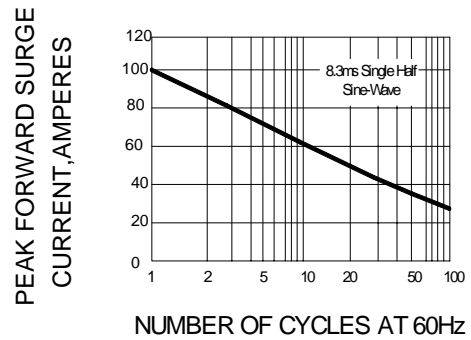


FIG.6 – TYPICAL REVERSE CHARACTERISTICS

