



# MER1DMB-AU

## Surface Mount Super Fast Recovery Rectifier

**Voltage** 200 V **Current** 1 A

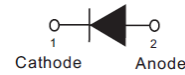
### Features

- Superfast recovery times-epitaxial construction
- Low forward voltage, high current capability
- Low leakage
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### Mechanical Data

- Case : SMB Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.092 grams

### SMB



## Maximum Ratings and Thermal Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	200	V
Maximum RMS Voltage	V <sub>RMS</sub>	140	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	200	V
Maximum Average Forward Current	I <sub>F(AV)</sub>	1	A
Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load	I <sub>FSM</sub>	35	A
Typical Junction Capacitance Measured at 1 MHZ And Applied V <sub>R</sub> = 4 V	C <sub>J</sub>	17	pF
Typical Thermal Resistance	(Note 1) R <sub>θJA</sub>	135	°C/W
	(Note 2) R <sub>θJC</sub>	14	
	(Note 2) R <sub>θJL</sub>	17	
Operating Junction Temperature Range	T <sub>J</sub>	-55~175	°C
Storage Temperature Range	T <sub>STG</sub>	-55~175	°C



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## Electrical Characteristics ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Forward Voltage	$V_F$	$I_F = 0.5\text{ A}, T_J = 25^\circ\text{C}$	-	0.83	-	V
		$I_F = 1\text{ A}, T_J = 25^\circ\text{C}$	-	-	0.95	V
		$I_F = 0.5\text{ A}, T_J = 125^\circ\text{C}$	-	0.69	-	V
		$I_F = 1\text{ A}, T_J = 125^\circ\text{C}$	-	0.77	-	V
Reverse Current	$I_R$	$V_R = 160\text{ V}, T_J = 25^\circ\text{C}$	-	3	-	nA
		$V_R = 200\text{ V}, T_J = 25^\circ\text{C}$	-	-	1	uA
		$V_R = 200\text{ V}, T_J = 125^\circ\text{C}$	-	-	20	
Reverse Recovery Time	$T_{RR}$	$I_F = 0.5\text{ A}, I_R = 1\text{ A},$ $I_{RR} = 0.25\text{ A}, T_J = 25^\circ\text{C}$	-	-	35	ns
Reverse Recovery Time	$T_{RR}$	$I_F = 1\text{ A}, V_R = 200\text{ V}$ $di/dt = 300\text{ A/uS}$	-	13.8	-	ns
Peak Recovery Current	$I_{RRM}$		-	2.7	-	A
Reverse Recovery Charge	$Q_{RR}$	$T_J = 25^\circ\text{C}$	-	23	-	nC
Reverse Recovery Time	$T_{RR}$	$I_F = 1\text{ A}, V_R = 200\text{ V}$ $di/dt = 300\text{ A/uS}$	-	20.9	-	ns
Peak Recovery Current	$I_{RRM}$		-	4	-	A
Reverse Recovery Charge	$Q_{RR}$		$T_J = 125^\circ\text{C}$	-	47	-

NOTES :

1. Mounted on a FR4 PCB, single-sided copper, standard footprint.
2. Mounted on a FR4 PCB, single-sided copper, with 100 cm<sup>2</sup> copper pad area.



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## TYPICAL CHARACTERISTIC CURVES

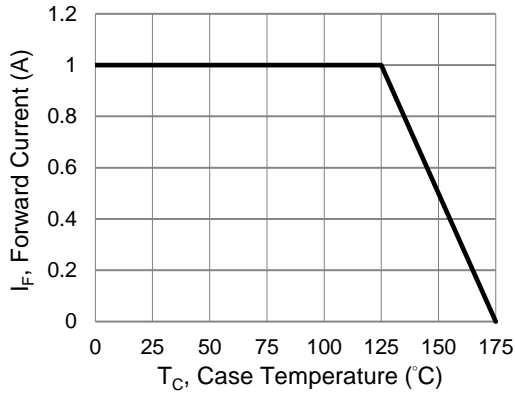


Fig.1 Forward Current Derating Curve

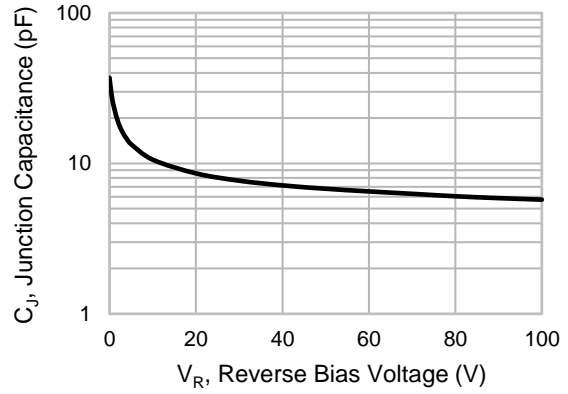


Fig.2 Typical Junction Capacitance

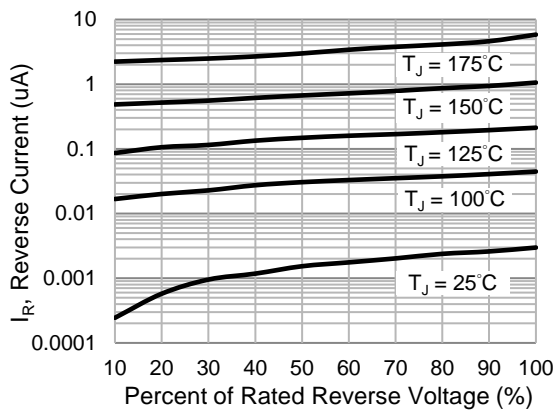


Fig.3 Typical Reverse Characteristics

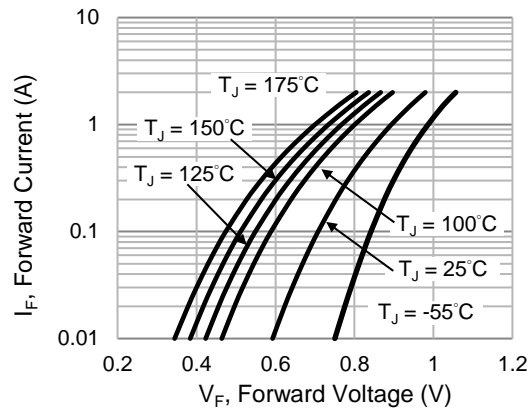


Fig.4 Typical Forward Characteristics

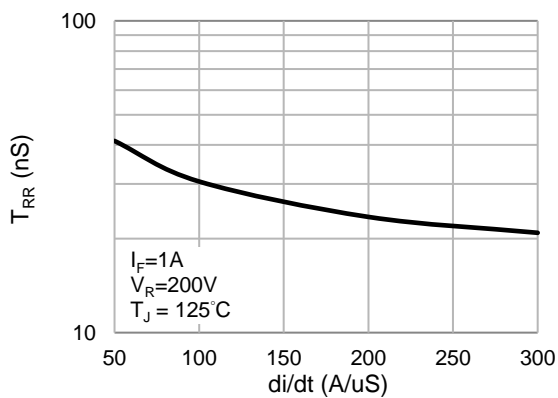


Fig.5 Typical Reverse Recovery Time Versus di/dt

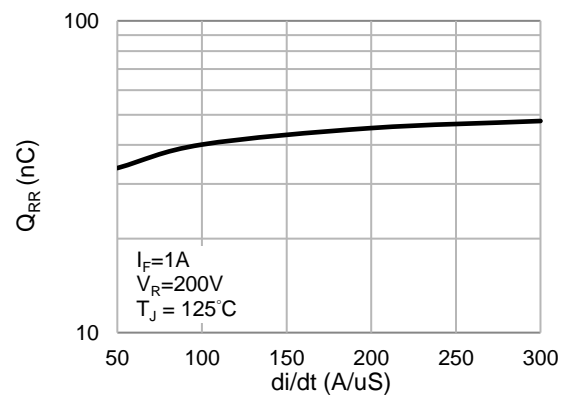


Fig.6 Typical Reverse Recovery Charge Versus di/dt

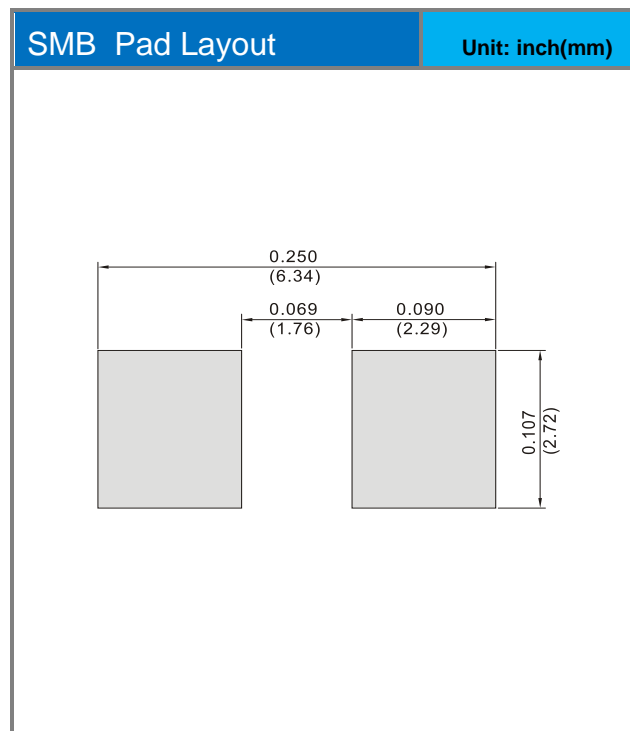
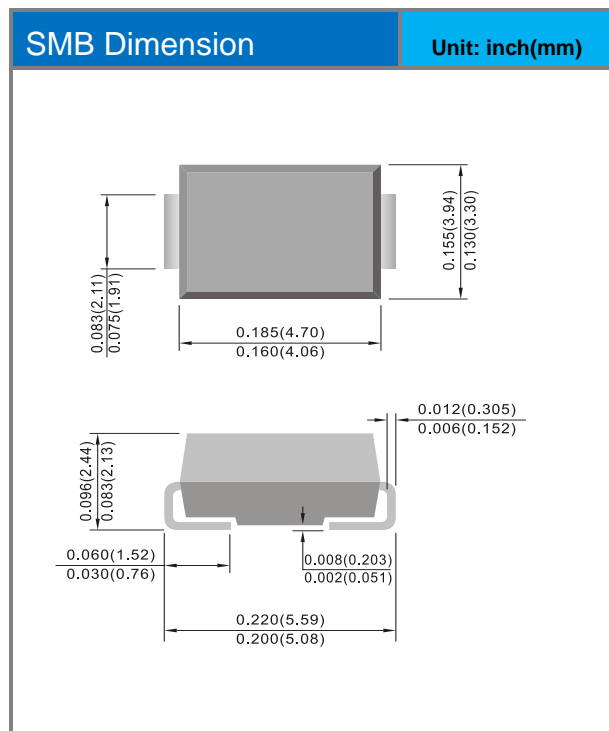


# MER1DMB-AU

**Part No. Packing Code Version**

Part No. Packing Code	Package Type	Packing Type	Marking	Version
MER1DMB-AU_R2_006A1	SMB	3K pcs / 13" reel	MER1DB	Halogen free RoHS compliant

**Packaging Information & Mounting Pad Layout**





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