



Surface Mount Super Fast Recovery Rectifier

Voltage 200 V Current 1 A

Features

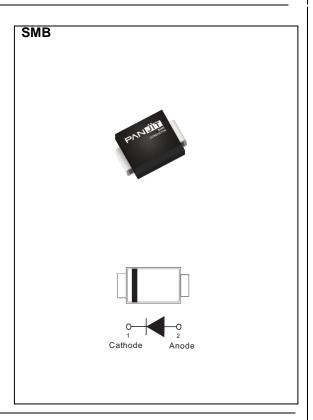
- Superfast recovery times-epitaxial construction
- Low forward voltage, high current capability
- Low leakage
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

• Case: SMB Package

• Terminals : Solderable per MIL-STD-750, Method 2026

• Approx. Weight: 0.092 grams



Maximum Ratings and Thermal Characteristics (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS		
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	200	V	
Maximum RMS Voltage	V _{RMS}	140	V		
Maximum DC Blocking Voltage	V _{DC}	200	V		
Maximum Average Forward Current	I _{F(AV)}	1	А		
Peak Forward Surge Current: 8.3 ms Single Half Sine- Wave Superimposed On Rated Load		Ifsм	35	А	
Typical Junction Capacitance Measured at 1 MHZ And Applied $V_R = 4 \text{ V}$		Сл	17	pF	
Typical Thermal Resistance	(Note 1)	Reja	135		
	(Note 2)	Rejc	14	°C/W	
	(Note 2)	ReJL	17		
Operating Junction Temperature Range		TJ	-55~175	°C	
Storage Temperature Range		T _{STG}	-55~175	°C	





Electrical Characteristics (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS	
Forward Voltage	VF	I _F = 0.5 A, T _J = 25 °C	ı	0.83	-	V	
		I _F = 1 A, T _J = 25 °C	ı	-	0.95	V	
		I _F = 0.5 A, T _J = 125 °C	-	0.69	-	V	
		I _F = 1 A, T _J = 125 °C	-	0.77	-	V	
Reverse Current	I _R	V _R = 160 V, T _J = 25 °C	-	3	-	nA	
		V _R = 200 V, T _J = 25 °C	-	-	1	uA	
		V _R = 200 V, T _J = 125 °C	-	-	20		
Reverse Recovery Time	T _{RR}	I _F = 0.5 A, I _R = 1 A,		-	35	ns	
		I _{RR} = 0.25 A, T _J = 25 °C	1				
Reverse Recovery Time	T_{RR} $I_F = 1 A, V_R = 200 V$		ı	13.8	-	ns	
Peak Recovery Current	I _{RRM}	di/dt = 300 A/uS		2.7	-	Α	
Reverse Recovery Charge	Q _{RR}	T _J = 25 °C	-	23	-	nC	
Reverse Recovery Time	T_RR	I _F = 1 A, V _R = 200 V	-	20.9	-	ns	
Peak Recovery Current	I _{RRM}	di/dt = 300A/uS	-	4	_	Α	
Reverse Recovery Charge	Q_{RR}	T _J = 125 °C	-	47	-	nC	

NOTES:

- 1. Mounted on a FR4 PCB, single-sided copper, standard footprint.
- 2. Mounted on a FR4 PCB, single-sided copper, with 100 cm² copper pad area.





TYPICAL CHARACTERISTIC CURVES

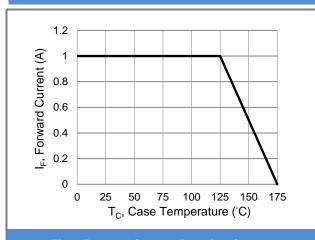


Fig.1 Forward Current Derating Curve

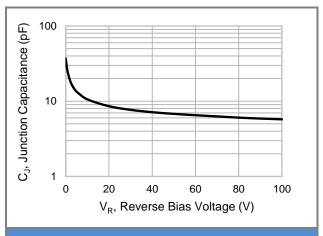


Fig.2 Typical Junction Capacitance

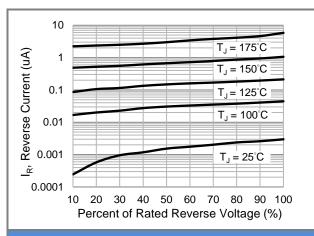


Fig.3 Typical Reverse Characteristics

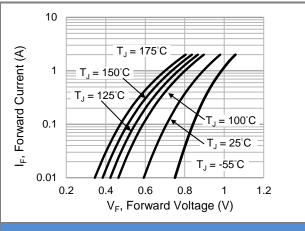


Fig.4 Typical Forward Characteristics

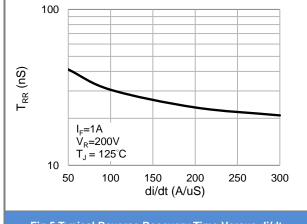


Fig.5 Typical Reverse Recovery Time Versus di/dt

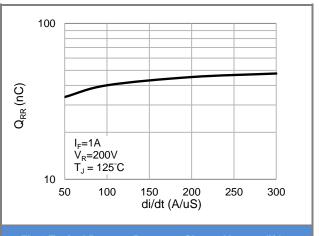


Fig.6 Typical Reverse Recovery Charge Versus di/dt

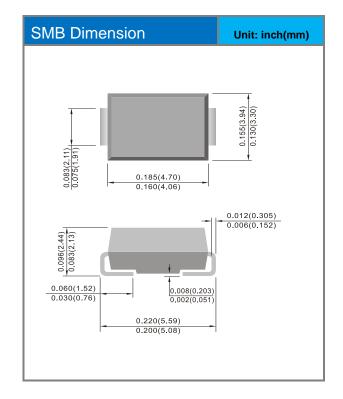


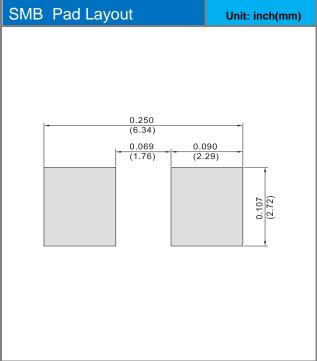


Part No. Packing Code Version

Part No. Packing Code	Package Type	Packing Type	Marking	Version
MER1DMB_R2_00601	SMB	3K pcs / 13" reel	MER1DB	Halogen free RoHS compliant

Packaging Information & Mounting Pad Layout









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