MER1DMA

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 : SMA Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0024 ounces, 0.0679 grams

SMA

1 Cathode — 2 Anode
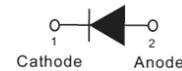
Maximum Ratings and Thermal Characteristics $(T_A = 25\ ^{\circ}C$ unless otherwise noted)

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	A
Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load		I_{FSM}	35	A
Typical Junction Capacitance Measured at 1 MHZ And Applied $V_R = 4$ V		C_J	17	pF
Typical Thermal Resistance	(Note 1)	$R_{\theta JA}$	150	$^{\circ}$C/W
	(Note 2)	$R_{\theta JC}$	16	
	(Note 2)	$R_{\theta JL}$	22	
Operating Junction Temperature Range		T_J	-55~175	$^{\circ}$C
Storage Temperature Range		T_{STG}	-55~175	$^{\circ}$C

MER1DMA

Electrical Characteristics ($T_A = 25\ ^\circ C$ unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Forward Voltage	V_F	$I_F = 0.5$ A, $T_J = 25\ ^\circ C$	-	0.83	-	V
		$I_F = 1$ A, $T_J = 25\ ^\circ C$	-	-	0.95	V
		$I_F = 0.5$ A, $T_J = 125\ ^\circ C$	-	0.69	-	V
		$I_F = 1$ A, $T_J = 125\ ^\circ C$	-	0.77	-	V
Reverse Current	I_R	$V_R = 160$ V, $T_J = 25\ ^\circ C$	-	3	-	nA
		$V_R = 200$ V, $T_J = 25\ ^\circ C$	-	-	1	uA
		$V_R = 200$ V, $T_J = 125\ ^\circ C$	-	0.3	-	
Reverse Recovery Time	T_{RR}	$I_F = 0.5$ A, $I_R = 1$ A, $I_{RR} = 0.25$ A, $T_J = 25\ ^\circ C$	-	-	35	ns

NOTES :
1. Mounted on a FR4 PCB, single-sided copper, standard footprint.
2. Mounted on a FR4 PCB, single-sided copper, with 100 cm^2 copper pad area.
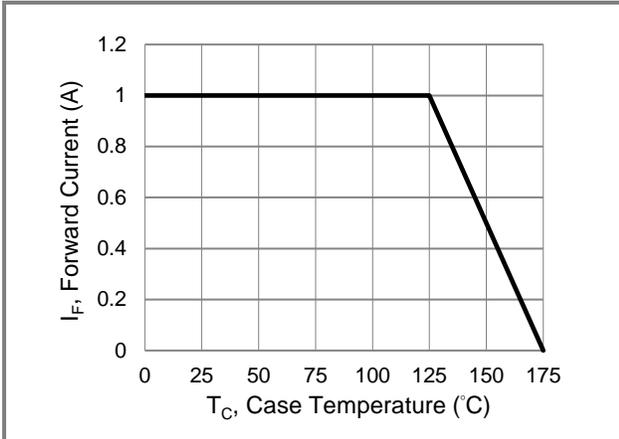
TYPICAL CHARACTERISTIC CURVES

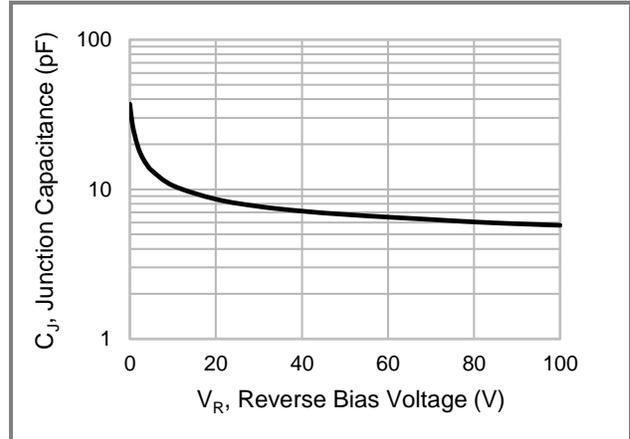**Fig.1 Forward Current Derating Curve**

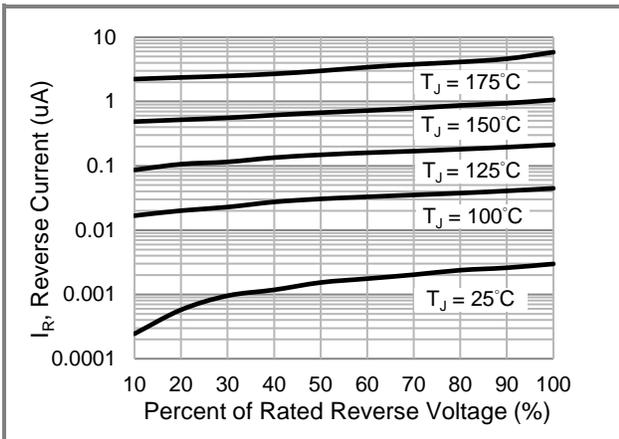**Fig.2 Typical Junction Capacitance**
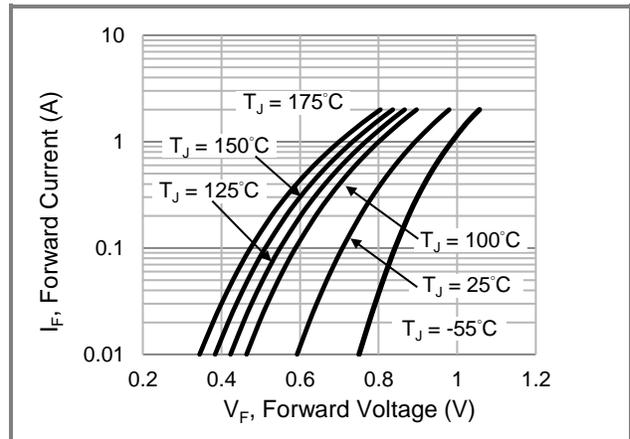

Fig.3 Typical Reverse Characteristics

Fig.4 Typical Forward Characteristics

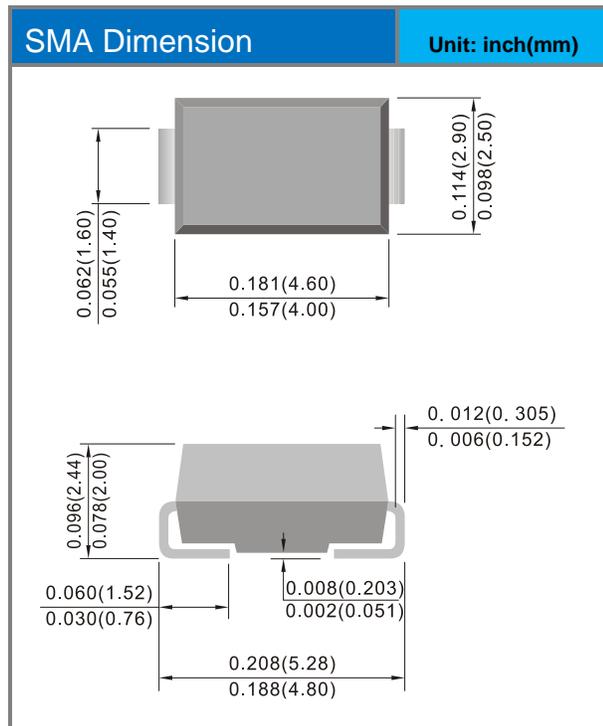## Part No. Packing Code Version

Part No. Packing Code	Package Type	Packing Type	Marking	Version
MER1DMA_R2_00001	SMA	7.5K pcs / 13" reel	MER1DA	Halogen free RoHS compliant

Packaging Information & Mounting Pad Layout

SMA Dimension	Unit: inch(mm)

0.114(2.90)
0.098(2.50)

0.062(1.60)
0.055(1.40)

0.181(4.60)
0.157(4.00)

0.012(0.305)
0.006(0.152)

0.096(2.44)
0.078(2.00)

0.060(1.52)
0.030(0.76)

0.008(0.203)
0.002(0.051)

0.208(5.28)
0.188(4.80)

SMA Pad Layout	Unit: inch(mm)

0.228
(5.80)

0.065
(1.66)

0.082
(2.07)

0.081
(2.06)
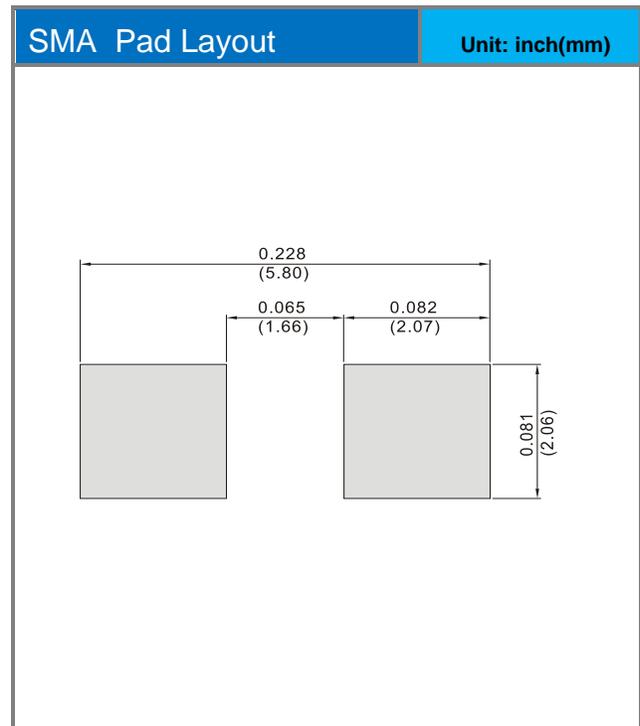
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