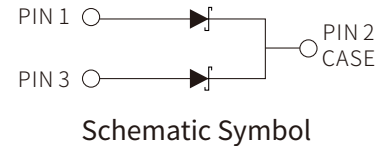
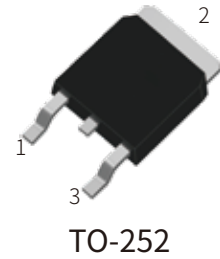


FEATURES

- | Low forward voltage
- | High current capability
- | High forward surge capability
- | Low power losses, High efficiency
- | Guarding for over voltage protection



MECHANICAL DATA

- | Case: Molded plastic
- | Polarity: As marked
- | Mounting Position: Any

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS (T_A = 25°C)

Parameter	Symbol	MBR20100DCT	Unit
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	100	V
Working Peak Reverse Voltage	V _{RWM}	100	V
Maximum DC Blocking Voltage	V _{DC}	100	V
Maximum Average Forward Rectified Current	Per Leg	10	A
	Tota	20	
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave	I _{FSM}	150	A
Typical Thermal Resistance (Note1)	R _{θJC}	2	°C/W
Operating Temperature Range	T _J	175	°C
Storage Temperature Range	T _{STG}	-40 to +175	°C

Note1: Thermal resistance from Junction to case per leg mounted on heatsink

ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$)

Characteristics		Symbol	Min.	Typ.	Max.	Unit
Forward Voltage Drop(Note2)	$I_F=3\text{A}, T_A=25^{\circ}\text{C}$	V_F		0.69		V
	$I_F=3\text{A}, T_A=125^{\circ}\text{C}$			0.60		
	$I_F=5\text{A}, T_A=25^{\circ}\text{C}$			0.75		
	$I_F=5\text{A}, T_A=125^{\circ}\text{C}$			0.61		
	$I_F=10\text{A}, T_A=25^{\circ}\text{C}$			0.83	0.85	
	$I_F=10\text{A}, T_A=125^{\circ}\text{C}$				0.68	
Maximum Reverse Current at $V_R=100\text{V}$	$T_A=25^{\circ}\text{C}$	I_R		1.0	5	μA
	$T_A=125^{\circ}\text{C}$			1		mA

Note2:Pulse test: 300 μs pulse width, 1 % duty cycle

CHARACTERISTIC CURVES

Fig.1 Maximum Forward Current Derating Curve

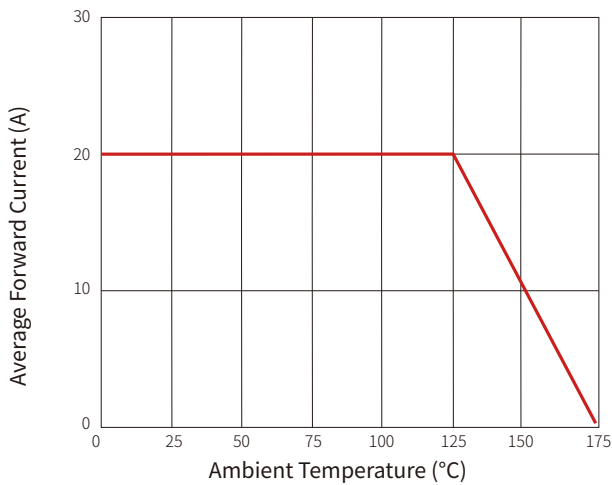


Fig.2 Maximum Non-repetitive Forward Surge Current Per Leg

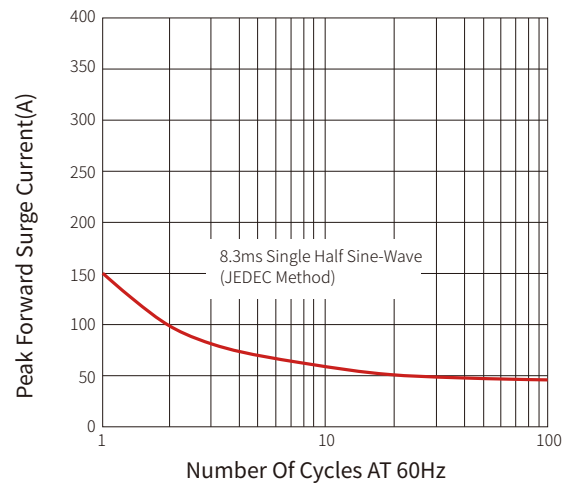
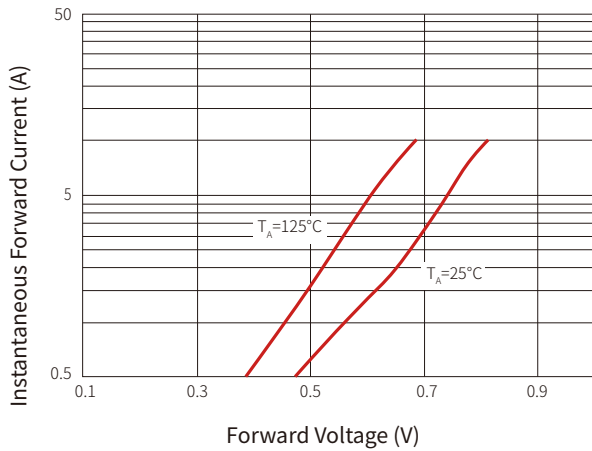
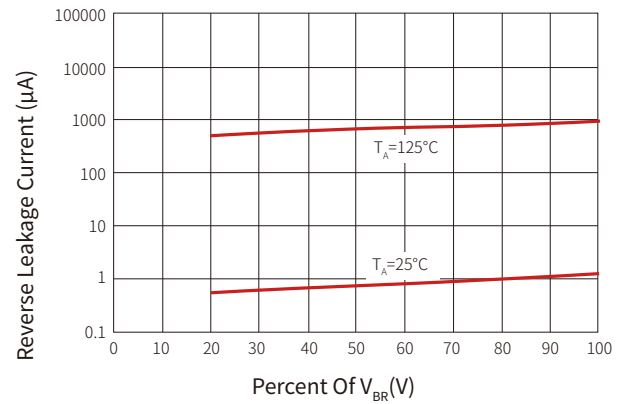
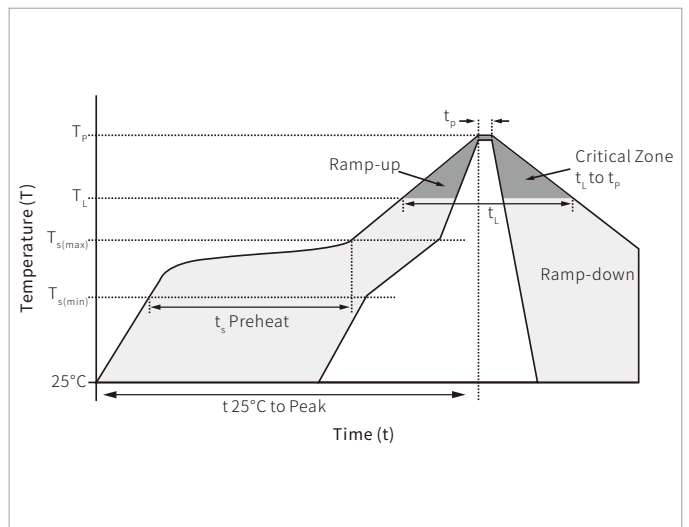


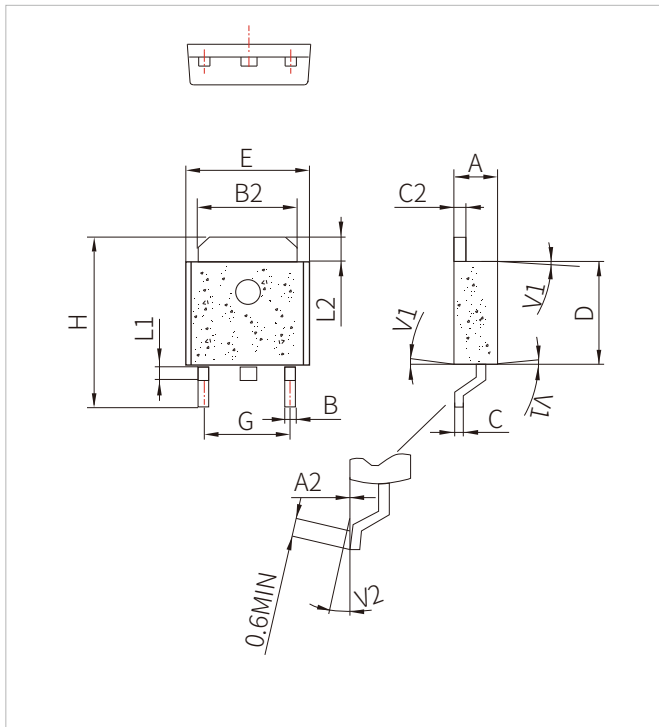
Fig.3 Typical Forward Characteristics Per Leg

Fig.4 Typical Reverse Characteristics Per Leg


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(\min)}$)	150°C
	Temperature Max ($T_{s(\max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{s(\max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C



TO-252 PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.10		2.50	0.083		0.098
A2	0.03		0.23	0.001		0.009
B	0.55		0.65	0.022		0.026
B2	5.10		5.40	0.200		0.213
C	0.45		0.62	0.018		0.024
C2	0.48		0.62	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.80	0.252		0.268
G	4.40		4.70	0.173	0.1	0.185
H	9.35		10.7	0.368		0.421
L1	1.30		1.70	0.051	0.143	0.067
L2	1.37		1.50	0.054		0.059
V1		4°			0.130	
V2	0°		8°	0°		8°

ORDERING INFORMATION

Part Number	Package	Marking	QTY/Reel	Reel Size
MBR20100DCT	TO-252	 MBR20100 XXXX	2500PCS	13"

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By QR Code

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Wechat

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