MBR20L45CT

Product profile

Dual Common-Cathode Ultra Low VF Schottky Rectifier

General description

Rectifiers 20 Amp 45V

Features

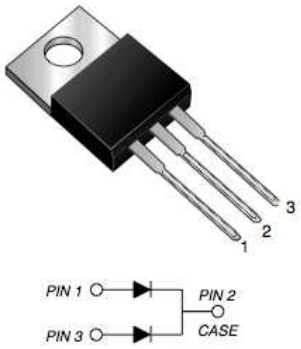
- Guard ring for overvoltage protection
- Lower power losses, high efficiency
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High frequency operation
- Solder Dip 260 °C, 40 s
- Component in accordance to ROHS 2002/95/EC

and WEEE 2002/96/EC

Typical applications

For use in high frequency rectifier of switching mode power supplies, freewheeling diodes, dc-to-dc converters or polarity protection application.

TO-220AB



Mechanical data

Case: TO-220AB

Molding compound meets UL 94 V-0 flammability rating

Terminals: Matte tin plated leads, solderable per meets JESD 201

Polarity: As marked

Weight: 2.35 grams

Mounting Torque: 10 in-lbs maximum

Maximum Ratings (Tc=25°C unless otherwise noted)

Parameter	Symbol	MBR20L45CT	Unit
Maximum repetitive peak reverse voltage	VRRM	45	V
RMS Voltage (Max.)	VRMS	31	V
Working peak reverse voltage	VRWM	45	V
Maximum average forward rectified current Total Device	IF(AV)	20	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	IFSM	200	A
Operating junction temperature range	TJ	-55 to +150	°C
Storage temperature range	TSTG	-55 to +150	°C

THERMAL CHARACTERISTICS

Parameter	Symbol	Value	Unit
Typical thermal resistance	RθJL	3	°C/W

Notes:

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

(2) Pulse test: Pulse width ≤ 40 ms

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Electrical characteristics (Tc=25°C unless otherwise noted)

OFF CHARACTERISTICS

Parameter	Symbol	Value		Unit
		Typical	Max	
Instantaneous forward voltage				
at IF=3A, Tj=25°C		0.36		
at IF=10A, Tj=25°C	VF	0.48	0.54	V
at IF=3A, Tj=125°C		0.34		
at IF=10A, Tj=125°C		0.46	0.52	
Maximum reverse current Tj=25°C	IR	200		u'A
at working peak reverse voltage Tj=125°C		75		m'A
Junction Capacitance @ DC 5V	CJ	500		pF

DEVICE MARK

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■ Characteristic Curves

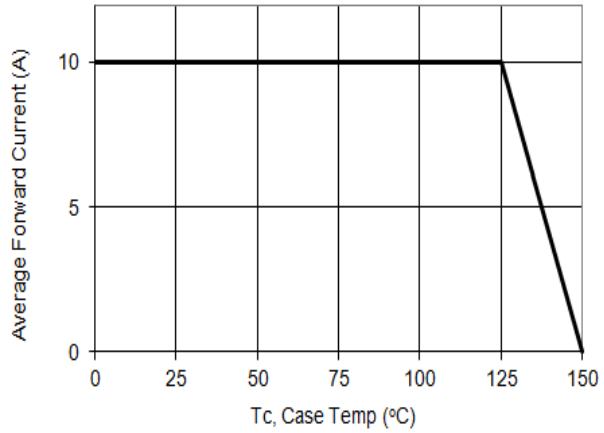

Figure 1: Current Derating, Case

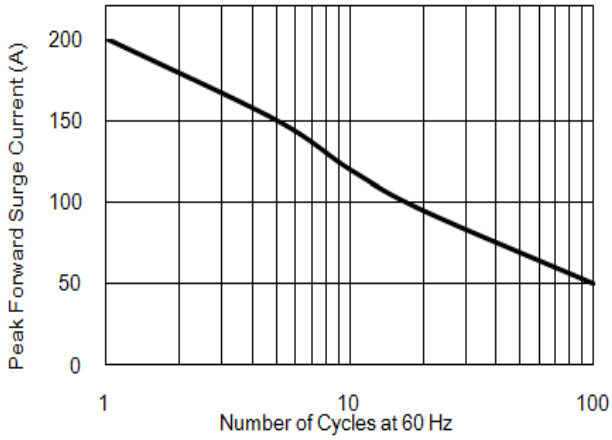

Figure 2: Maximum Repetitive Surge Current

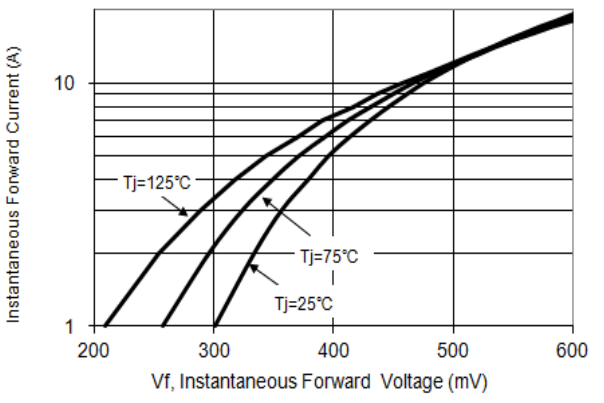

Figure 3: Typical Forward Voltage

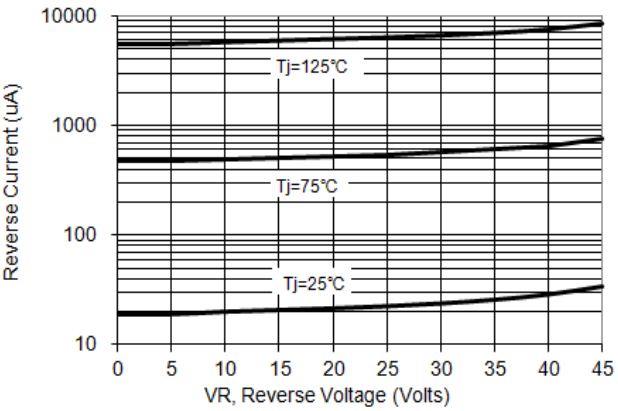

Figure 4: Typical Reverse Current

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