

MBR3040CT

Dual Common-Cathode High-Voltage Schottky Rectifier

Description

The MBR3040CT is a N-channel enhancement-mode MOSFET , providing the designer with the best combination of fast switching, ruggedized device design, low on-resistance and cost effectiveness. The TO-220F package is universally preferred for all commercial-industrial applications

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
- RoHS compliant package

Application

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

Mechanical Data

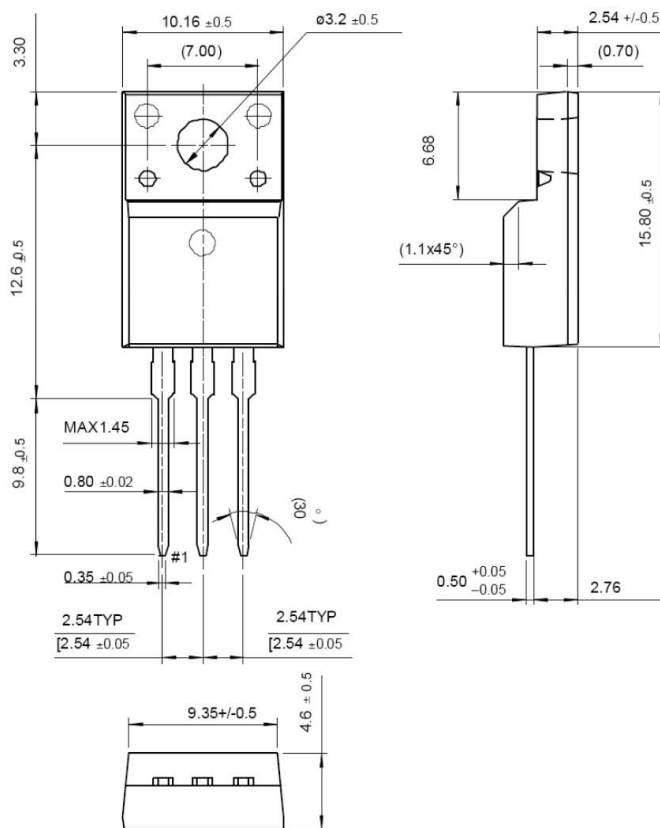
- Case: TO-220AB
- Molding compound meets UL 94 V-0 flammability rating
- Terminals: Matte tin plated leads, solderable per meets

JESD 201

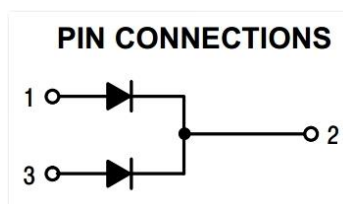
- Polarity: As marked
- Weight: 2.4 grams
- Mounting Torque: 10 in-lbs maximum

Packing & Order Information

50/Tube ; 1,000/Box



Graphic symbol



RoHS
COMPLIANT

MBR3040CT

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MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

Parameter	Symbol	MBR3040CT	Unit
Maximum repetitive peak reverse voltage	VRRM	40	V
Working peak reverse voltage	VRWM	36	V
Maximum DC blocking voltage	VDC	40	V
Maximum average forward rectified current	IF(AV)	30	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

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

Parameter	Symbol	Value		Unit
		Typical	Max	
Instantaneous forward voltage at IF=15A, Tj=25°C at IF=15A, Tj=125°C	VF	0.68 0.54	0.70 0.60	V
Maximum reverse current per leg Tj=25°C	IR	500		u'A
at working peak reverse voltage Tj=125°C		5		m'A

Notes:

- (1) Pulse test: 300 µs pulse width, 1 % duty cycle
- (2) Pulse test: Pulse width ≤ 40 ms

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

Parameter	Symbol	Value	Unit
Typical thermal resistance		MBR3040CT	°C/W
	RθJA	30	
	Rthjc	2	

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■ RATING AND CHARACTERISTIC CURVES

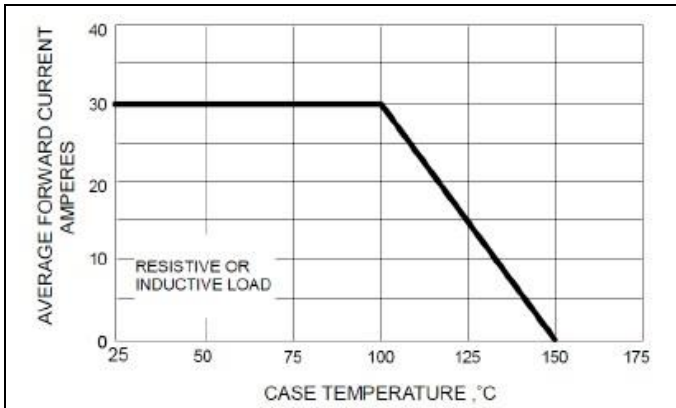


FIG.1-FORWARD CURRENT DERATING CURVE

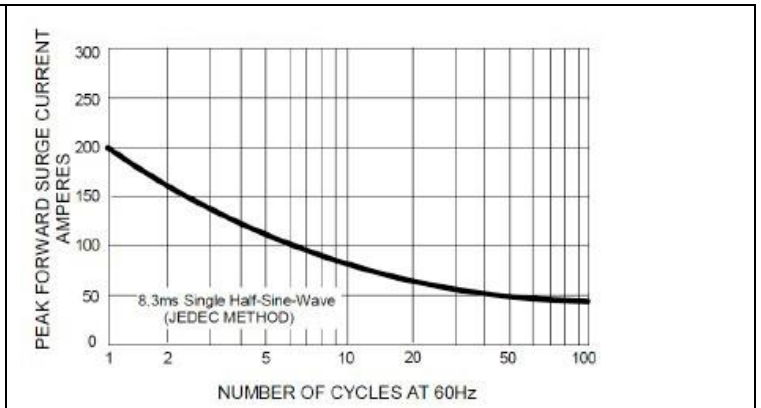


FIG.2-MAXIMUM NON-REPETITIVE SURGE CURRENT

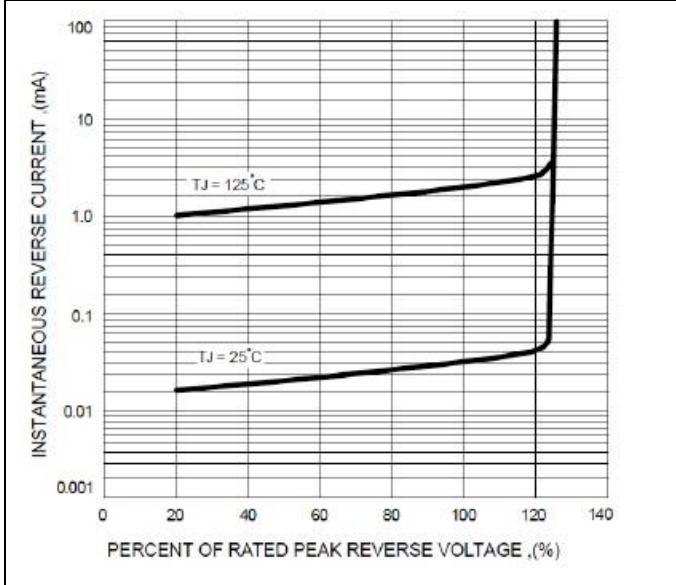


FIG.3-TYPICAL REVERSE CHARACTERISTICS

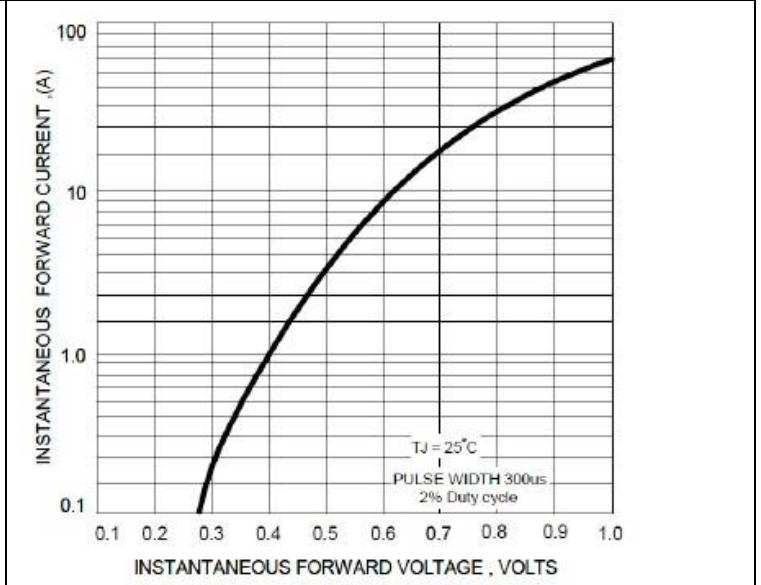


FIG.4-TYPICAL FORWARD CHARACTERISTICS

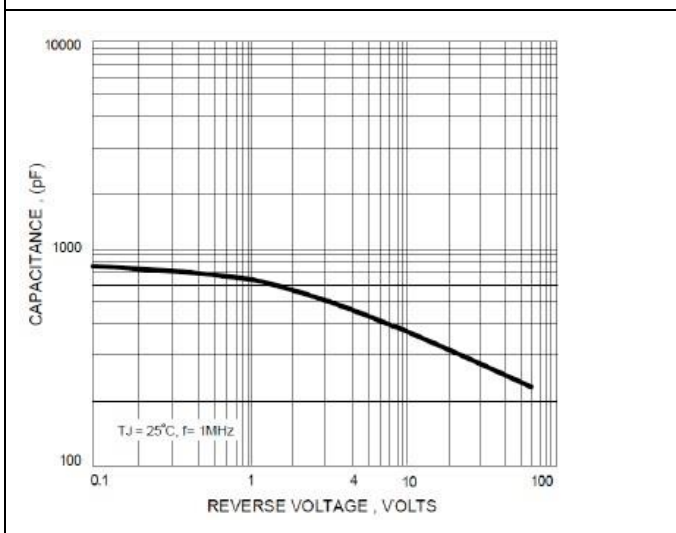


FIG.5-TYPICAL JUNCTION CAPACITANCE

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