MBR3040CT THRU MBR30200CT

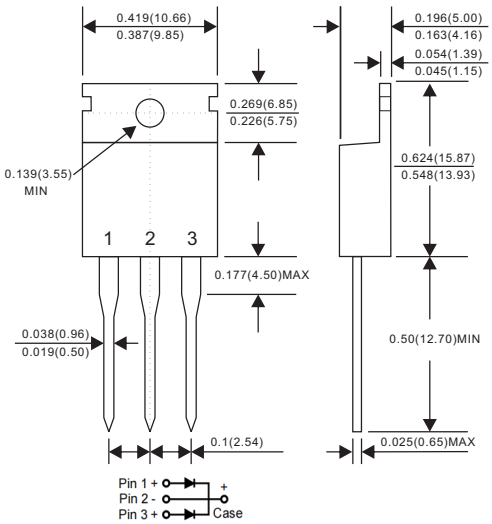
30A High Barrier Power Schottky Rectifiers - 40V-200V

Features

- Low power loss, high efficiency.
- High current capability
- High surge capability.
- Guardring for overvoltage protection.
- Low stored charge majority carrier conduction
- Silicon epitaxial planar chip, metal silicon junction.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- Suffix "-H" indicates Halogen-free parts, ex. MBR3040CT-H.

Package outline

TO-220AB



Dimensions in inches and (millimeters)

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : JEDEC TO-220AB molded plastic body over passivated chip
- Lead : Axial leads, solderable per MIL-STD-202, Method 208 guranteed
- Polarity: As marked
- Mounting Position : Any
- Weight : Approximated 2.10 gram

Maximum ratings (AT T_A=25°C unless otherwise noted)

PARAMETER	SYMBOLS	MBR 3040CT	MBR 3045CT	MBR 3050CT	MBR 3060CT	MBR 3080CT	MBR 30100CT	MBR 30150CT	MBR 30200CT	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	40	45	50	60	80	100	150	200	V
Maximum RMS voltage	V_{RMS}	28	31.5	35	42	56	70	105	140	V
Maximum DC blocking voltage	V_{DC}	40	45	50	60	80	100	150	200	V
Maximum average forward rectified current Per device	I_O	30								A
Peak forward surge current 8.3ms single half sine-wave(JEDEC method)	I_{FSM}	200								A
Operating junction temperature range	T_J	-55 to +150						-55 to +175		°C
Storage temperature range	T_{STG}	-65 to +175								°C

Electrical characteristics (AT T_A=25°C unless otherwise noted)

PARAMETER	SYMBOLS	MBR 3040CT	MBR 3045CT	MBR 3050CT	MBR 3060CT	MBR 3080CT	MBR 30100CT	MBR 30150CT	MBR 30200CT	UNIT
Maximum forward voltage per leg at I_F=15A at I_F=30A	V_F	0.65 0.84		0.75 0.85		0.85 0.95		0.95 1.00		V V
Maximum DC reverse current at T_J=25°C at rated DC blocking voltage at T_J=125°C	I_R	0.05 15				0.01 15				mA mA

Thermal characteristics

PARAMETER	SYMBOLS	MBR 3040CT	MBR 3045CT	MBR 3050CT	MBR 3060CT	MBR 3080CT	MBR 30100CT	MBR 30150CT	MBR 30200CT	UNIT
Typical thermal resistance junction to case per leg	$R_{\theta JC}$	2.0								°C/W

Rating and characteristic curves (MBR3040CT THRU MBR30200CT)

FIG. 1 - FORWARD DERATING CURVE

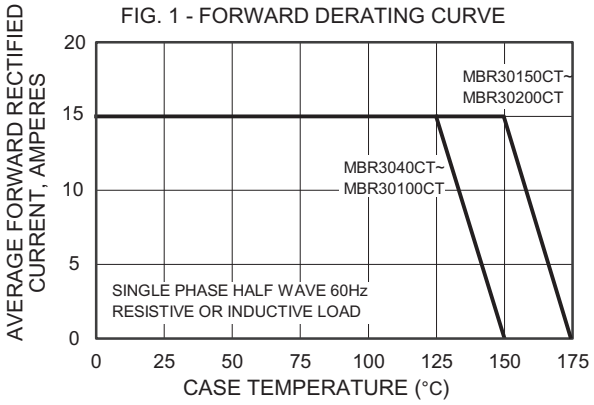


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

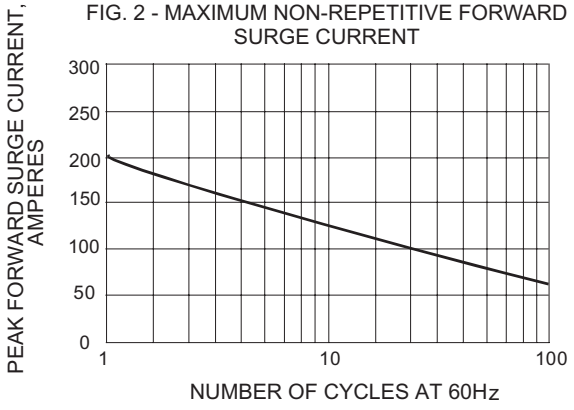


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

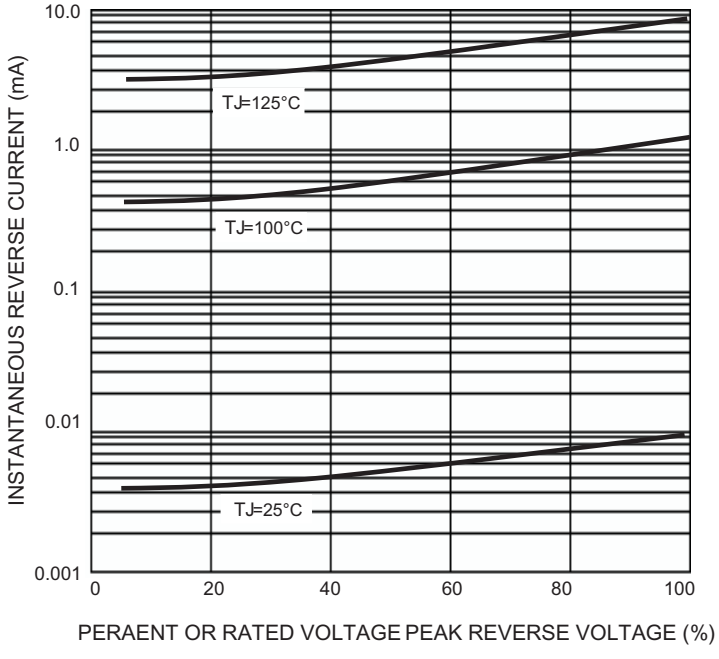
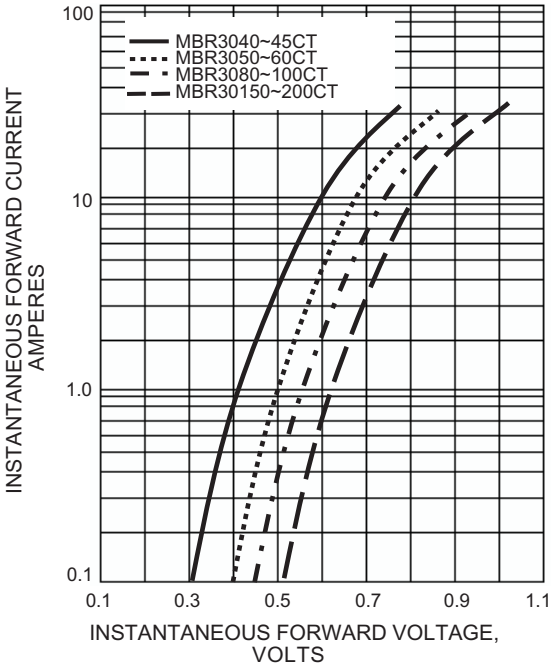


FIG. 4 - TYPICAL FORWARD CHARACTERISTIC PER LEG



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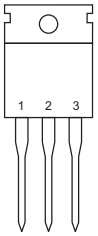
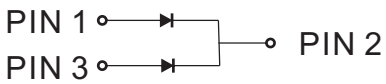
Pinning information

Pin	Simplified outline	Symbol
Pin1 anode Pin2 cathode Pin3 anode		

Marking

Type number	Marking code
MBR3040CT	MBR3040CT
MBR3045CT	MBR3045CT
MBR3050CT	MBR3050CT
MBR3060CT	MBR3060CT
MBR3080CT	MBR3080CT
MBR30100CT	MBR30100CT
MBR30150CT	MBR30150CT
MBR30200CT	MBR30200CT

Tube packing

PACKAGE	TUBE (pcs)	TUBE SIZE (m/m)	BOX (pcs)	INNER BOX (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
TO-220AB	50	525*32*7.5	1,000	555*150*40	580*230*175	5,000	15.0

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Suggested thermal profiles for soldering processes

1.Lead free temperature profile wave-soldering