

MBR1640FCT THRU MBR16200FCT

16A High Barrier Power Schottky Rectifiers - 40V-200V

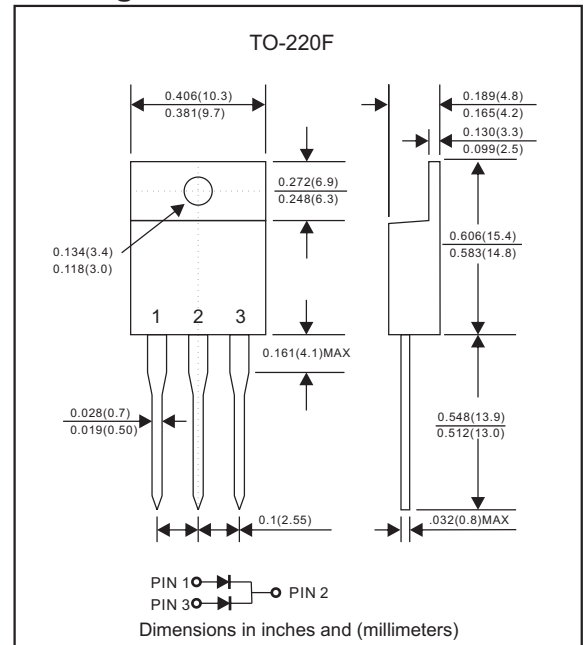
Features

- 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. MBR1640FCT-H.

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : JEDEC TO-220F molded plastic body over passivated chip
- Lead : Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: As marked
- Mounting Position : Any
- Weight : Approximated 1.70 gram

Package outline



Maximum ratings (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOLS	MBRF 1640CT	MBRF 1645CT	MBRF 1650CT	MBRF 1660CT	MBRF 1680CT	MBRF 16100CT	MBRF 16150CT	MBRF 16200CT	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	16								A
Peak forward surge current 8.3ms single half sine-wave(JEDEC method)	I_{FSM}	150								A
Operating junction temperature range	T_J	-55 to +150						-55 to +175		$^\circ\text{C}$
Storage temperature range	T_{STG}	-65 to +175								$^\circ\text{C}$

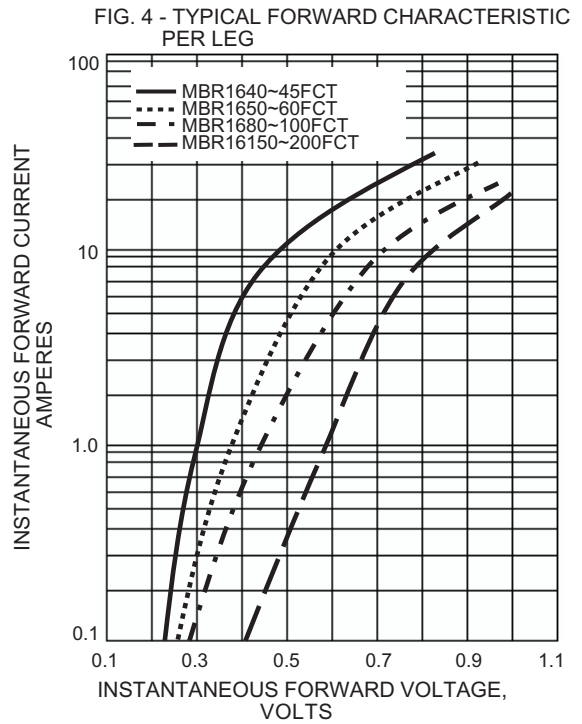
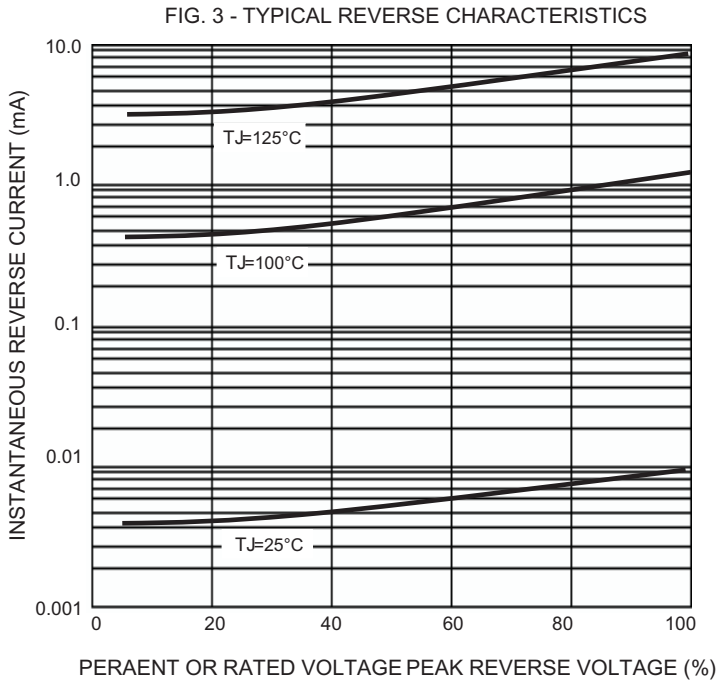
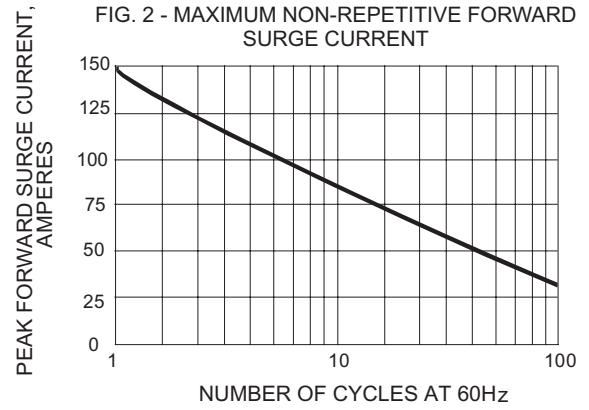
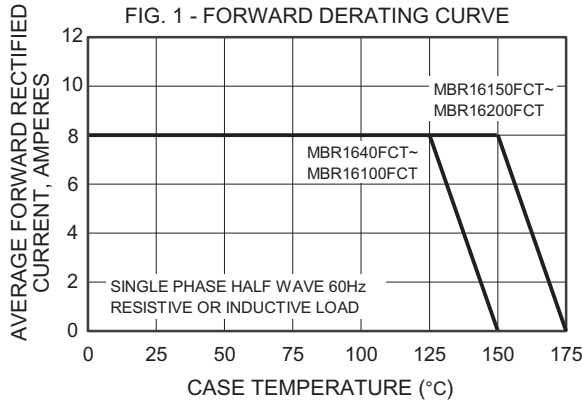
Electrical characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOLS	MBR 1640FCT	MBR 1645FCT	MBR 1650FCT	MBR 1660FCT	MBR 1680FCT	MBR 16100FCT	MBR 16150FCT	MBR 16200FCT	UNIT
Maximum forward voltage per leg at $I_F=8\text{A}$ at $I_F=16\text{A}$	V_F	0.65 0.84		0.75 0.85		0.85 0.95		0.92 1.00		V V
Maximum DC reverse current at $T_J=25^\circ\text{C}$ at rated DC blocking voltage at $T_J=125^\circ\text{C}$	I_R		0.05 10				0.01 10			mA mA

Thermal characteristics

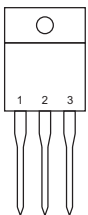
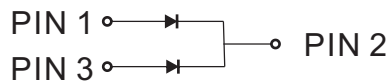
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Typical thermal resistance junction to case per leg	$R_{\theta JC}$	3.0								$^\circ\text{C}/\text{W}$

Rating and characteristic curves (MBR1640FCT THRU MBR16200FCT)



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Pinning information

Pin	Simplified outline	Symbol
Pin1 anode Pin2 cathode Pin3 anode		

Marking

Type number	Marking code
MBRF1640CT	MBRF1640CT
MBRF1645CT	MBRF1645CT
MBRF1650CT	MBRF1650CT
MBRF1660CT	MBRF1660CT
MBRF1680CT	MBRF1680CT
MBRF16100CT	MBRF16100CT
MBRF16150CT	MBRF16150CT
MBRF16200CT	MBRF16200CT

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-220F	50	525*32*7.0	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

