

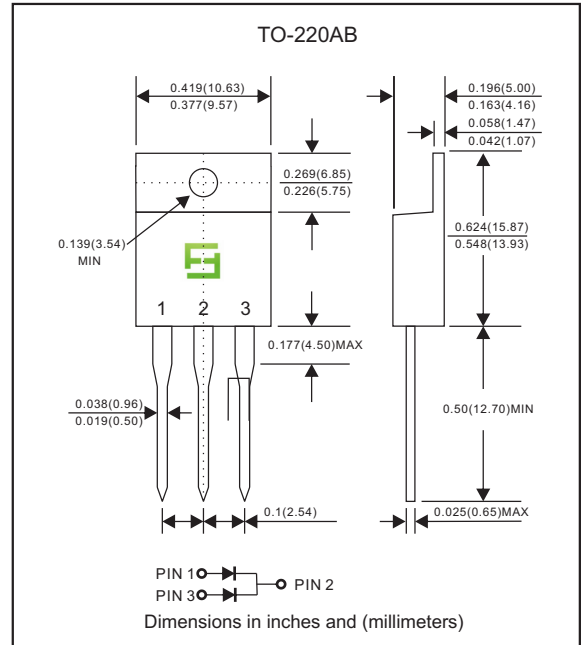
**Features**    

- 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. MBR1040CT-H.

**Mechanical data**

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, TO-220AB
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Mounting Position : Any

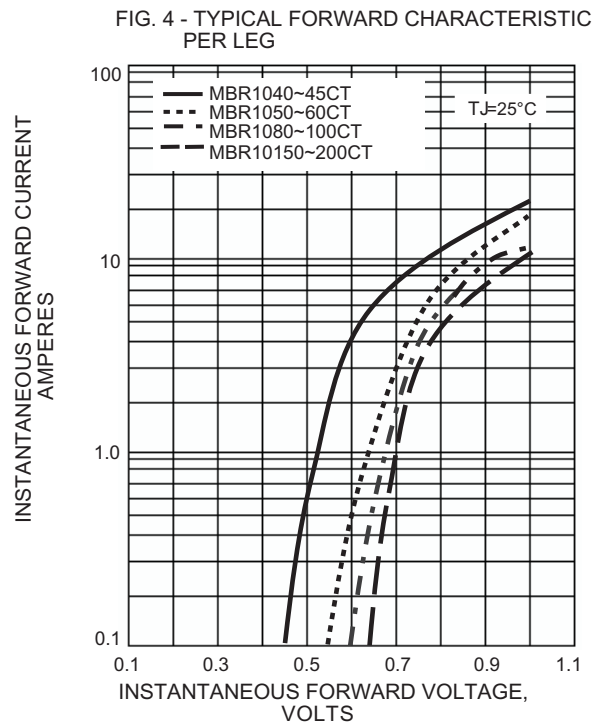
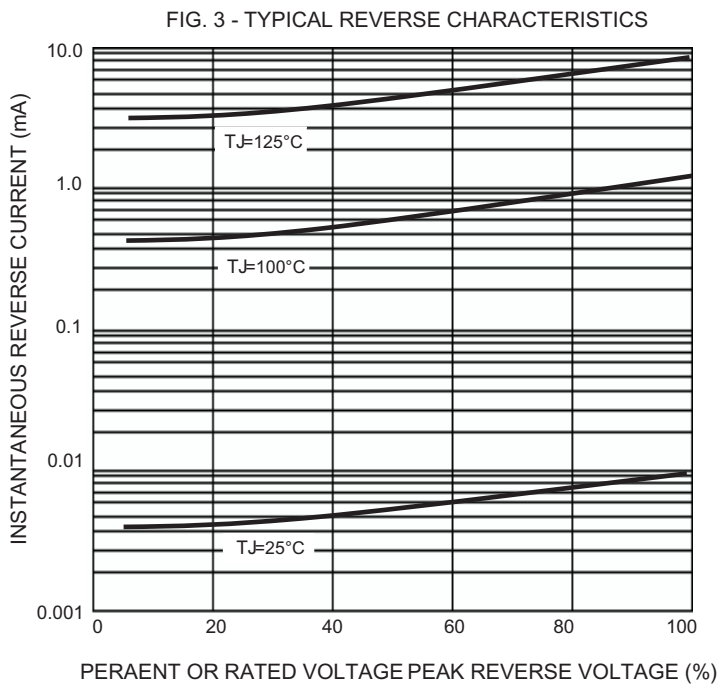
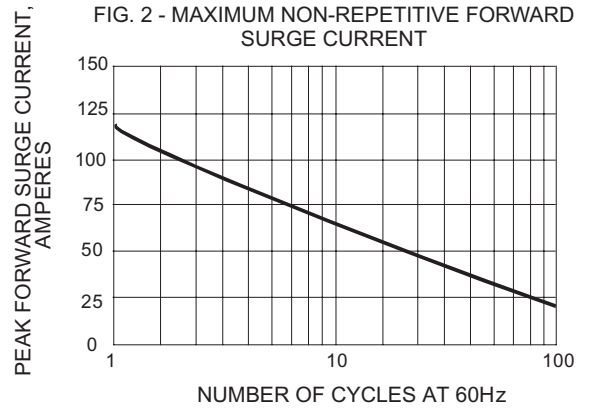
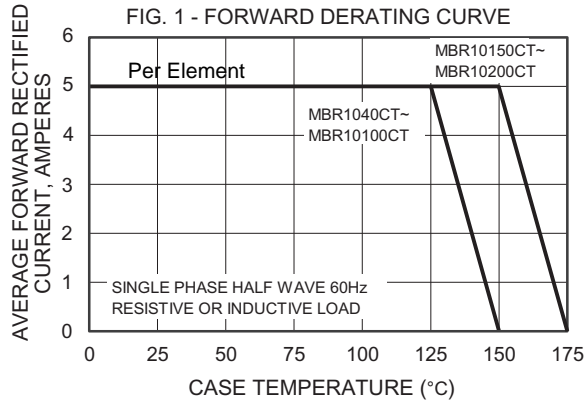
**Package outline**



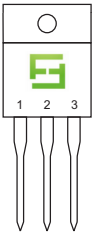
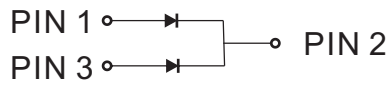
**Maximum ratings and Electrical Characteristics** (AT  $T_A=25^\circ\text{C}$  unless otherwise noted)

PARAMETER	SYMBOL	MBR1040CT	MBR1045CT	MBR1050CT	MBR1060CT	MBR1080CT	MBR1090CT	MBR10100CT	MBR10150CT	MBR10200CT	UNITS
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	40	45	50	60	80	90	100	150	200	V
Maximum RMS Voltage	$V_{RMS}$	28	31.5	35	42	56	63	70	105	140	V
Maximum DC Blocking Voltage	$V_{DC}$	40	45	50	60	80	90	100	150	200	V
Maximum Average Forward Current (See fig.1)	$I_{F(AV)}$	10									A
Peak Forward Surge Current :8.3ms single half sine-wave superimposed on rated load(JEDEC method)	$I_{FSM}$	120									A
Maximum Forward Voltage at 5A, per leg	$V_F$	0.70		0.80			0.85		0.92		V
Maximum DC Reverse Current $T_j=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_j=125^\circ\text{C}$	$I_R$	0.05 20									mA
Typical Thermal Resistance	$R_{\theta JC}$	2.5									$^\circ\text{C} / \text{W}$
Operating and Storage Junction Temperature Range	$T_j, T_{STG}$	-55 to + 150							-55 to + 175		$^\circ\text{C}$

## Rating and characteristic curves



## Pinning information

Pin	Simplified outline	Symbol
Pin1 anode Pin2 cathode Pin3 anode		

## Marking

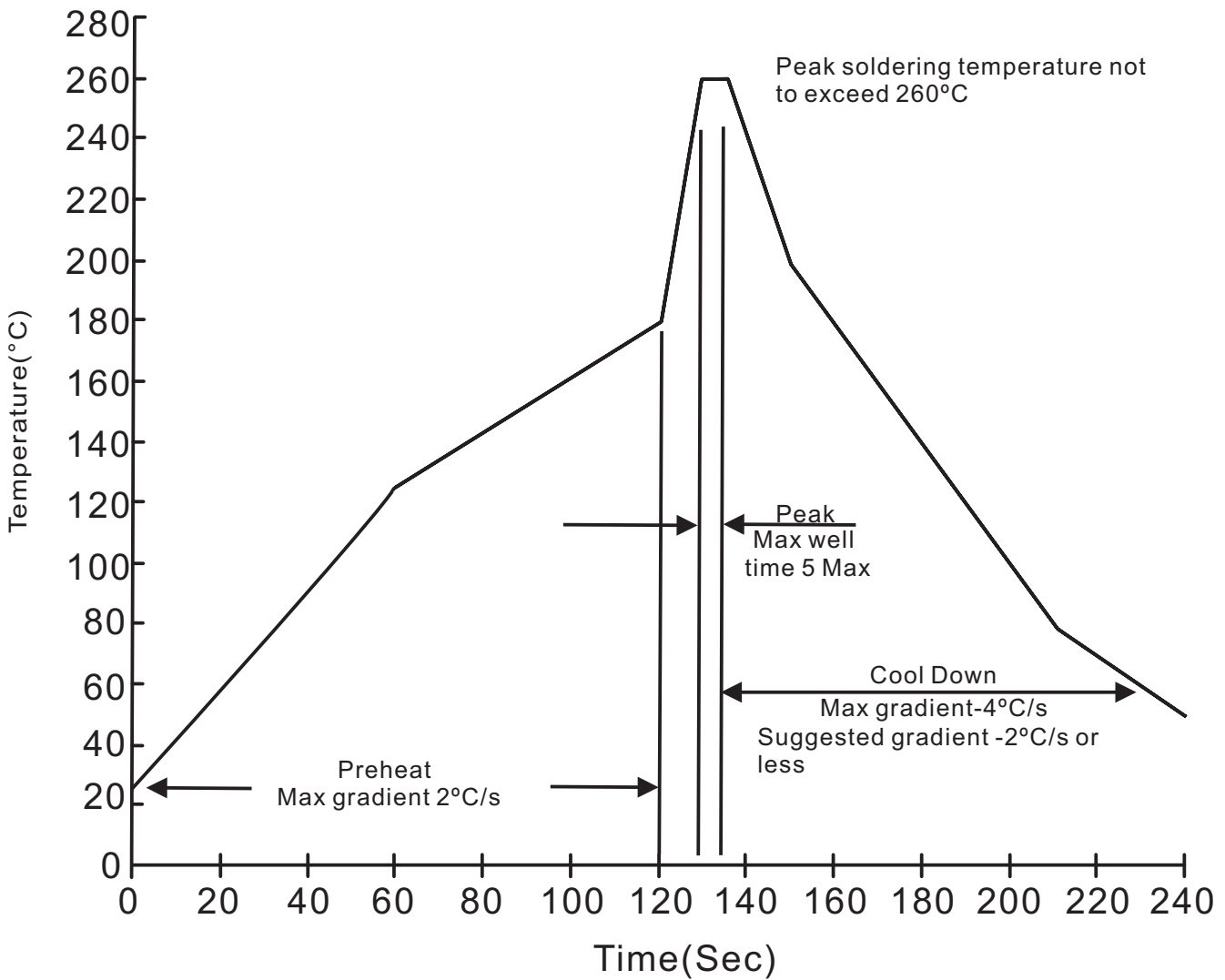
Type number	Marking code
MBR1040CT	MBR1040CT
MBR1045CT	MBR1045CT
MBR1050CT	MBR1050CT
MBR1060CT	MBR1060CT
MBR1080CT	MBR1080CT
MBR10100CT	MBR10100CT
MBR10150CT	MBR10150CT
MBR10200CT	MBR10200CT

## 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

## Suggested thermal profiles for soldering processes

### 1. Lead free temperature profile wave-soldering



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