

Features

- Low Power Loss, High Efficiency.
- High surge capability.
- Guardring for overvoltage protection.
- Metal silicon junction, majority carrier conduction.

HF

Typical Applications

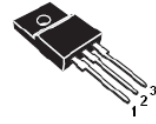
Device optimized for low forward voltage drop to maximize efficiency in Power Supply applications.

Mechanical Data

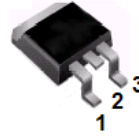
- Case: TO-220AB、ITO-220AB、TO-263
- Molding compound, UL flammability classification rating 94V-0.
- Terminals: Matte tin plated leads, solderable per MIL-STD-202, Method 208.



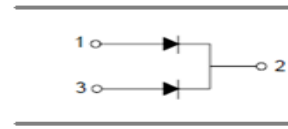
MBR40200CT
TO-220AB



MBRF40200CT
ITO-220AB



MBRB40200CT
TO-263



Ordering Information

Part Number	Package	Shipping	Marking Code
MBR40200CT	TO-220AB	50/Tube	MBR40200CT
MBRF40200CT	ITO-220AB	50/Tube	MBRF40200CT
MBRB40200CT	TO-263	50/Tube or 800/Tape Reel	MBRB40200CT

Maximum Ratings (@T_A=25°C unless otherwise specified)

Characteristic	Symbol	Value	Units
Peak repetitive reverse voltage	V _{RRM}	200	V
RMS reverse voltage	V _{RMS}	140	V
DC blocking voltage	V _{DC}	200	V
Maximum average forward output current	I _{F(AV)}	40	A
Peak forward surge current, 8.3ms single half-sine-wave	I _{FSM}	200	A

Thermal Characteristics

Parameter	Symbol	MBR40200CT	MBRF40200CT	MBRB40200CT	Units
Typical thermal resistance per leg	R _{θJC} *	2	4	3	°C/W
Operating junction temperature range	T _J	150			°C
Storage temperature range	T _{STG}	-55 to +150			°C

* Device mounted on additional heatsink, (50mm x 50mm x 23mm Al heatsink).

Electrical Characteristics (@ $T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min.	Typ.	Max.	Units
Forward Voltage	V_F^*	$I_F=20\text{A}, T_J=25^\circ\text{C}$	-	-	0.98	V
		$I_F=20\text{A}, T_J=125^\circ\text{C}$	-	-	0.90	
Maximum Peak Reverse Current	I_R^*	$V_R = \text{Rated } V_{RRM}, T_J=25^\circ\text{C}$	-	-	0.1	mA
		$V_R = \text{Rated } V_{RRM}, T_J=125^\circ\text{C}$	-	-	50	mA

*Pulse width < 300 μs , Duty cycle < 2%

Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

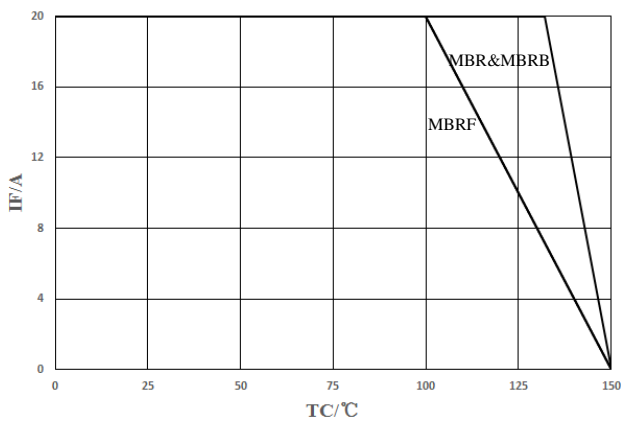


Fig.1- Current Derating Curve

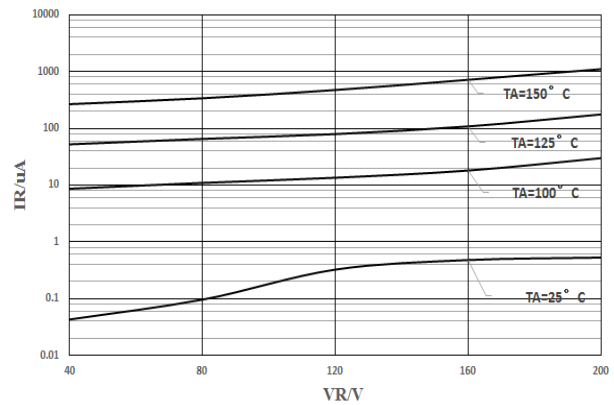


Fig.2- Typical Reverse Characteristic

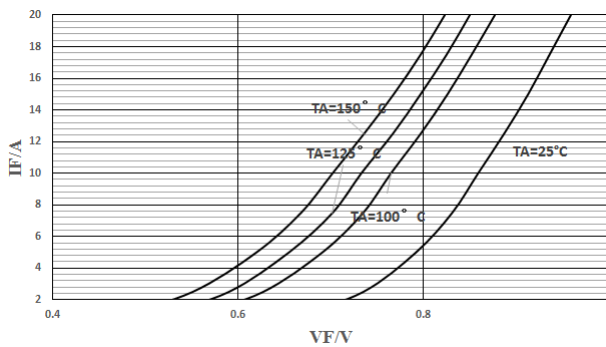
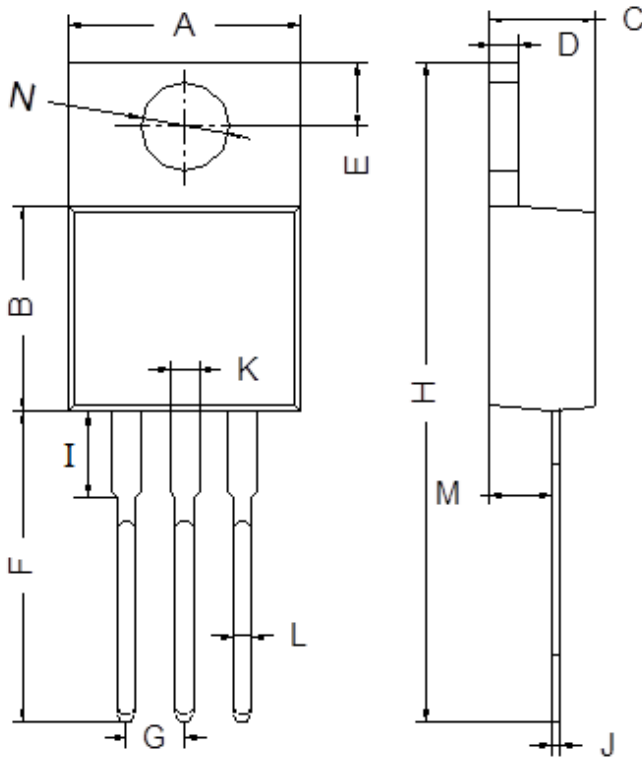


Fig.3- Forward Characteristics

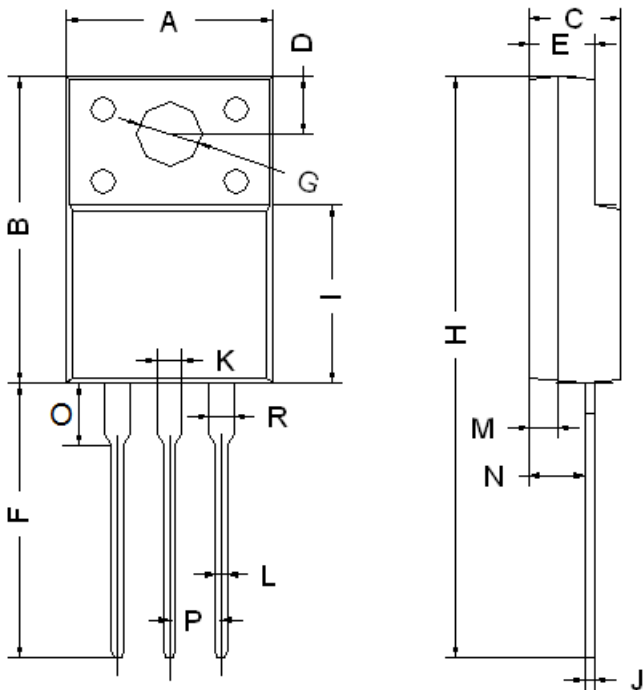
Package Outline Dimensions (unit:mm)

TO-220AB



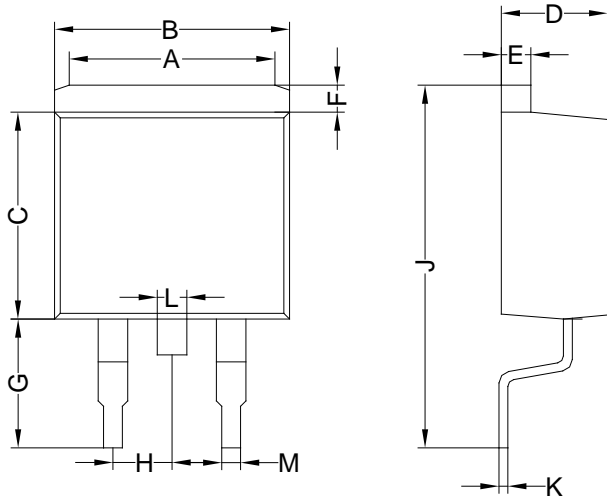
TO-220AB		
Dim	Min	Max
A	9.80	10.30
B	8.70	9.10
C	4.37	4.77
D	1.07	1.47
E	2.64	2.84
F	13.14	13.74
G	2.44	2.64
H	28.03	28.83
I	3.50	4.00
J	0.28	0.48
K	1.22	1.32
L	0.71	0.91
M	2.40	2.60
N	3.76	3.96

ITO-220AB



ITO-220AB		
Dim	Min	Max
A	9.90	10.30
B	14.80	15.20
C	4.30	4.70
D	2.50	2.90
E	2.80	3.30
F	13.00	13.60
G	3.10	3.30
H	28.00	28.60
I	7.90	8.90
J	0.40	0.60
L	0.70	0.90
M	1.30	1.50
N	2.60	2.80
O	2.60	3.10
P	2.45	2.65
K/R	1.10	1.30

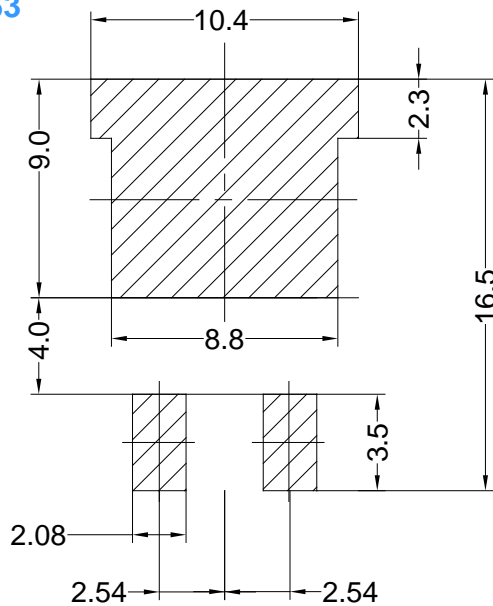
TO-263



TO-263		
A	6.00	8.00
B	9.90	10.30
C	8.50	9.10
D	4.37	4.77
E	1.07	1.47
F	1.07	1.47
G	5.34	5.74
H	2.44	2.64
J	15.30	15.90
K	0.28	0.48
L	1.17	1.37
M	0.71	0.91

Mounting Pad Layout(unit:mm)

TO-263



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