

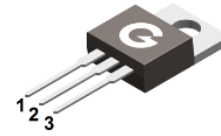
Features

- Low forward voltage drop
- Low switching losses
- High surge capacity
- RoHS compliant with Halogen-free

HF

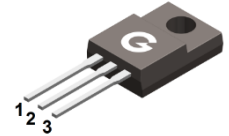
Mechanical Data

- Case: TO-220AB, ITO-220AB, TO-263, TO-247, TO-251, TO-252
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



MBR10200CT

TO-220AB



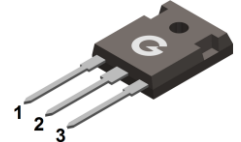
MBRF10200CT

ITO-220AB



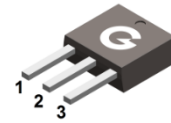
MBRB10200CT

TO-263



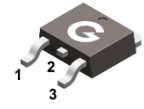
MBR10200UC

TO-247



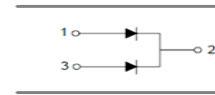
MBRI10200CT

TO-251



MBRD10200CT

TO-252



Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
MBR10200CT	TO-220AB	50 pcs / Tube	MBR10200CT
MBRF10200CT	ITO-220AB	50 pcs / Tube	MBRF10200CT
MBRB10200CT	TO-263	50 pcs / Tube or 800 pcs / Tape & Reel	MBRB10200CT
MBR10200UC	TO-247	30 pcs / Tube	MBR10200UC
MBRI10200CT	TO-251	80 pcs / Tube	MBRI10200CT
MBRD10200CT	TO-252	80 pcs / Tube & 2500 pcs / Tape & Reel	MBRD10200CT

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

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	200	V
RMS Reverse Voltage	V_{RMS}	140	V
DC Blocking Voltage	V_{DC}	200	V
Continuous Forward Current (per leg)	I_F	5	A
Continuous Forward Current (per device)	I_F	10	A
Peak Forward Surge Current (8.3ms single half sine-wave, per leg)	I_{FSM}	125	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance Junction-to-Case (TO-220AB, TO-263, per leg)	$R_{\theta JC}$	2	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Case (ITO-220AB, per leg)		4	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Case (TO-247, per leg)		1	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Case (TO-251, TO-252, per leg)		5	$^\circ\text{C/W}$
Operating Junction Temperature	T_J	-55 ~ +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	V_{BR}	$I_R = 100\mu\text{A}$	200	-	-	V
Forward Voltage	V_F	$I_F = 5\text{A}, T_J = 25^\circ\text{C}, \text{per leg}$	-	0.85	0.9	V
		$I_F = 5\text{A}, T_J = 125^\circ\text{C}, \text{per leg}$	-	0.71	0.8	V
Maximum Peak Reverse Current	I_R	$V_R = \text{Rated } V_{RRM}, T_J = 25^\circ\text{C}$	-	-	0.01	mA
		$V_R = \text{Rated } V_{RRM}, T_J = 125^\circ\text{C}$	-	-	5	mA
Junction Capacitance	C_J	$V_R = 4\text{V}, f = 1\text{MHz}$	-	74	-	pF

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

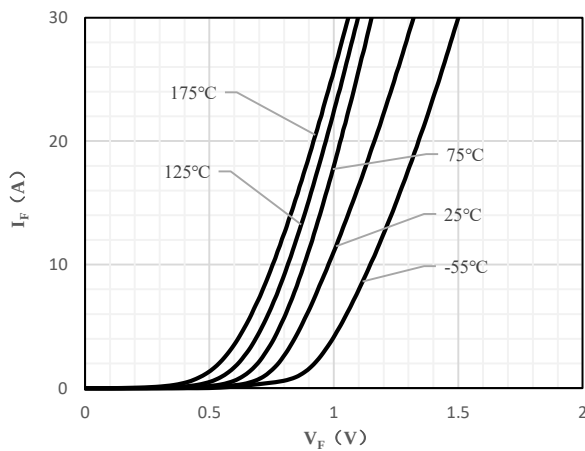


Fig 1 Typical Reverse Characteristic

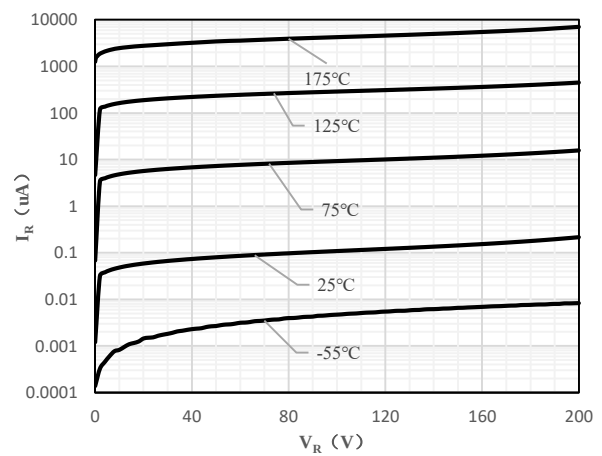


Fig 2 Typical Forward Characteristic

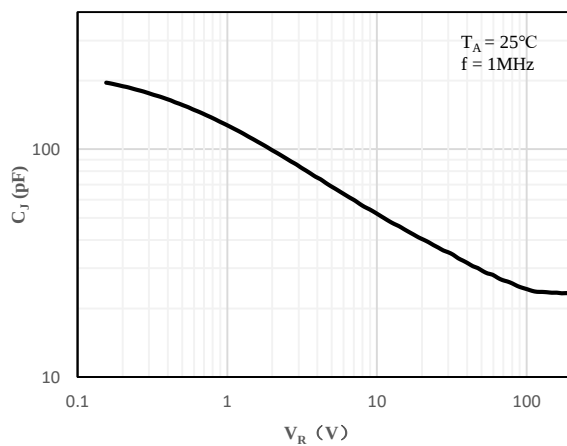


Fig 3 Capacitance vs. Reverse Voltage

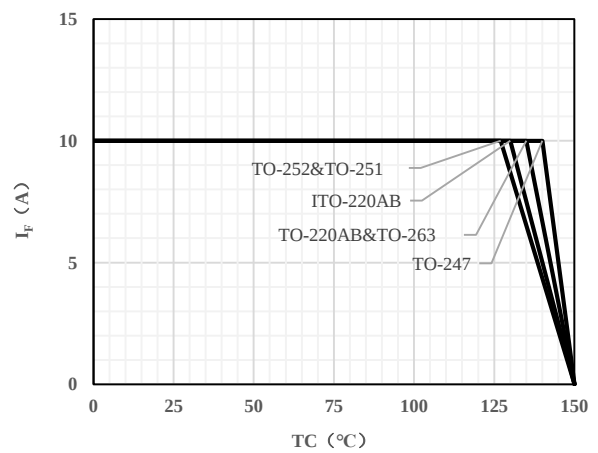
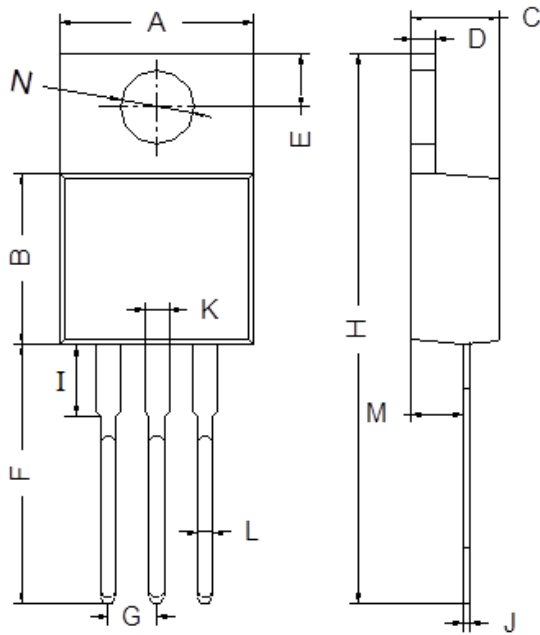
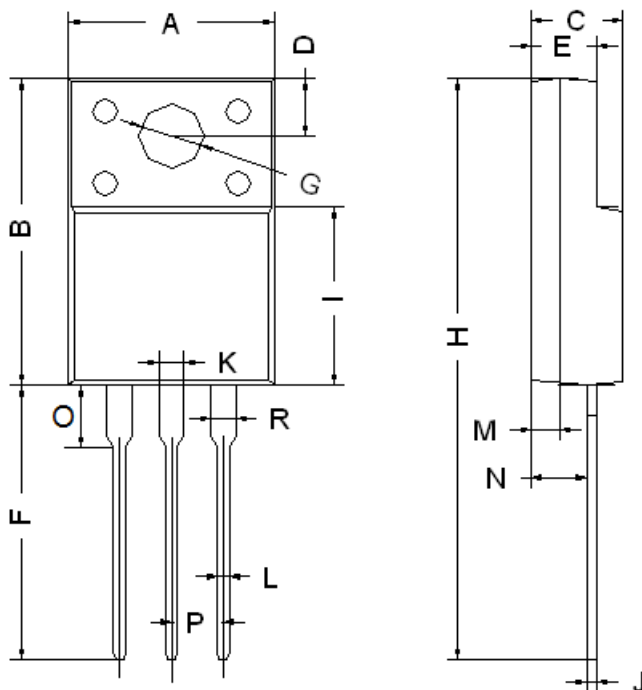


Fig 4 Forward Derating Curve

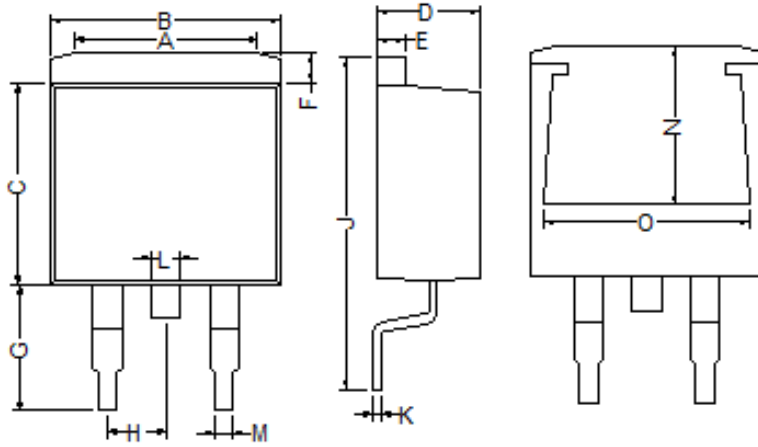
Package Outline Dimensions (Unit: mm)



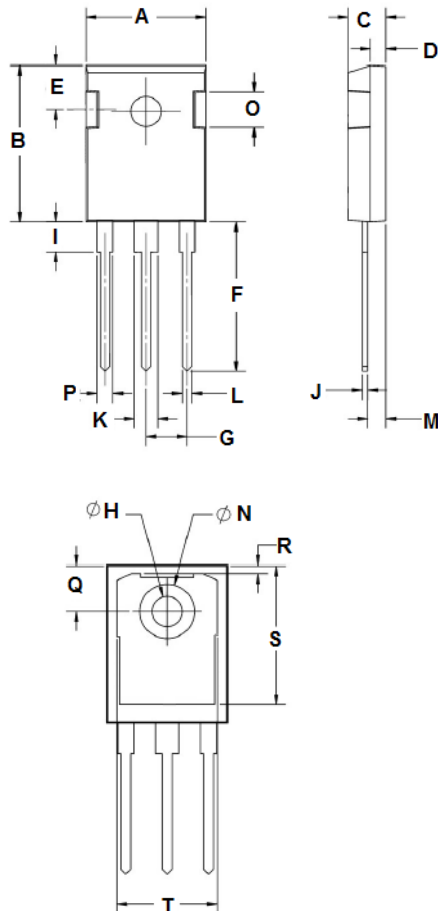
TO-220AB		
Dimension	Min.	Max.
A	9.80	10.30
B	8.70	9.10
C	4.37	4.77
D	1.07	1.47
E	2.64	2.84
F	13.14	13.74
G	2.44	2.64
H	28.03	28.83
I	3.50	4.00
J	0.28	0.48
K	1.22	1.32
L	0.71	0.91
M	2.40	2.60
N	3.76	3.96



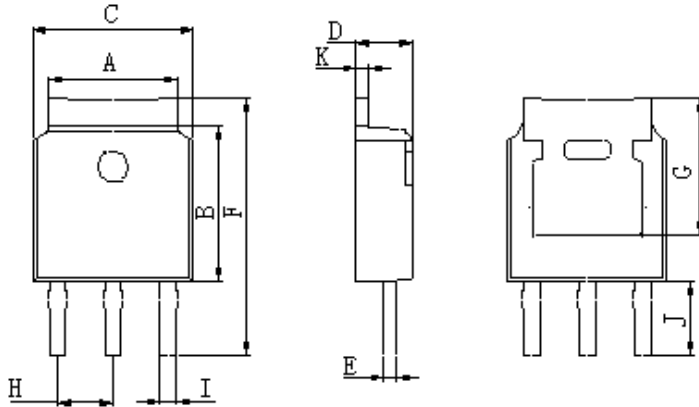
ITO-220AB		
Dimension	Min.	Max.
A	9.90	10.30
B	14.80	15.20
C	4.30	4.70
D	2.50	2.90
E	2.80	3.30
F	13.00	13.60
G	3.10	3.30
H	28.00	28.60
I	7.90	8.90
J	0.40	0.60
L	0.70	0.90
M	1.30	1.50
N	2.60	2.80
O	2.60	3.10
P	2.45	2.65
K/R	1.10	1.30



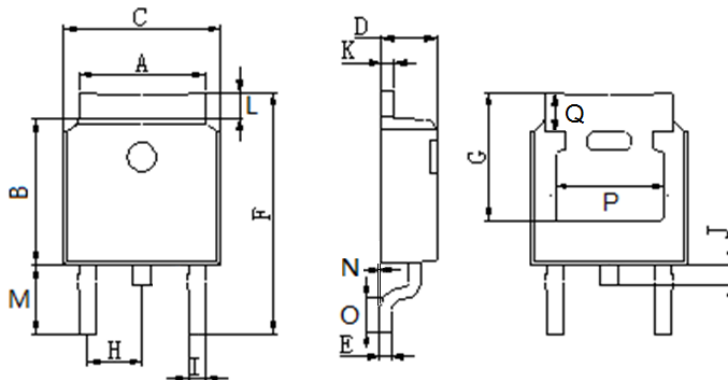
TO-263		
Dimension	Min.	Max.
A	6.00	8.00
B	9.90	10.30
C	8.50	9.10
D	4.37	4.77
E	1.07	1.47
F	1.07	1.47
G	5.05	5.74
H	2.44	2.66
J	15.15	15.80
K	0.28	0.48
L	1.17	1.37
M	0.71	0.91
N	6.55	7.68
O	7.70	8.10



TO-247		
Dimension	Min.	Max.
A	15.50	16.10
B	20.70	21.30
C	4.70	5.30
D	1.80	2.20
E	5.20	5.80
F	19.70	20.30
G	5.20	5.60
H	3.30	3.70
I	3.90	4.30
J	0.50	0.70
K	2.80	3.20
L	1.00	1.40
M	2.20	2.60
N	7.00	7.20
O	4.90	5.30
P	1.80	2.20
Q	5.70	5.90
R	0.80	1.20
S	17.00	17.80
T	13.60	14.20



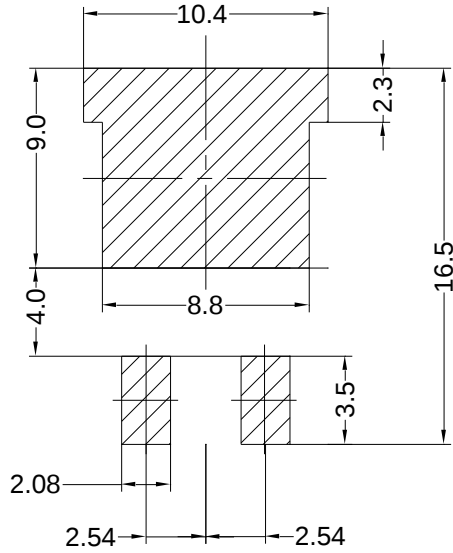
TO-251		
Dimension	Min.	Max.
A	5.05	5.65
B	5.80	6.40
C	6.25	6.85
D	2.20	2.40
E	0.40	0.60
F	11.00	11.60
G	5.05	5.65
H	2.10	2.50
I	0.70	0.90
J	4.00	4.40
K	0.40	0.60



TO-252		
Dimension	Min.	Max.
A	5.05	5.65
B	5.80	6.40
C	6.25	6.85
D	2.20	2.40
E	0.40	0.60
F	9.71	10.31
G	5.05	5.65
H	2.10	2.50
I	0.70	0.90
J	0.50	0.70
K	0.40	0.60
L	0.80	1.20
M	2.70	3.10
N	0.00	0.12
O	1.30	1.70
P	4.70	4.90
Q	1.25	1.45

Mounting Pad Layout (Unit: mm)

TO-263



TO-252

