

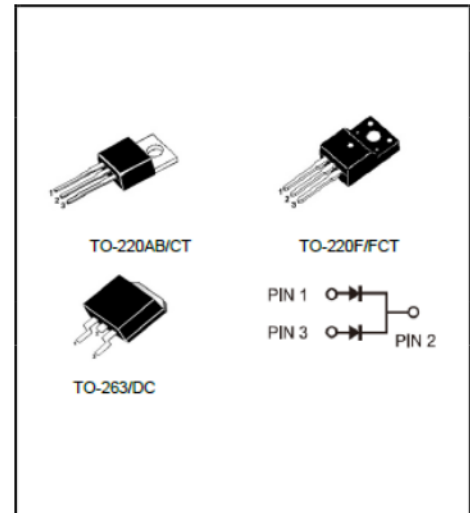
SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 45 V

Forward Current - 40 A

FEATURES

- ♦Low forward voltage
- ♦High current capability
- ♦High forward surge capability
- ♦Low power losses, High efficiency
- ♦Guarding for over voltage protection
- ♦Lead free in comply with EU RoHS 2011/65/EU directives



MECHANICAL DATA

- ♦Case: TO-220AB/CT TO-220F/FCT TO-263/DC
- ♦Solder bath temperature 275°C maximum, 10s per JESD22-106

Primary Characteristic

I_o	2*20A
V_{RRM}	45V
I_{FSM}	380A
V_F	0.51V
$T_J \text{ Max}$	150°C

Maximum Ratings (Per Leg) at $T_a=25^\circ\text{C}$ unless otherwise specified

Parameter	Symbols	Value	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	45	V
Maximum RMS voltage	V_{RMS}	45	V
Maximum DC Blocking Voltage	V_{DC}	45	V
Maximum Average Forward Rectified Current	Per Leg	20	A
	Total	40	
Peak Forward Surge Current, 8.3ms Single Half Sine-wave	I_{FSM}	380	A
Operating Temperature Range	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C
Typical Thermal Resistance (Note1) TO-220AB, TO-263 TO-220F	$R_{\theta JA}/R_{\theta JC}$	2/4	°C/W

Note1: Thermal resistance from Junction to case per leg mounted on heatsink.

Electrical Characteristics (Per Leg) unless otherwise specified

Characteristics		Symbols	Value		Units
Forward Voltage Drop(Note2)		V _F	Typ	Max	V
at I _F =5A	TA=25°C		0.45	-	
	TA=125°C		0.36	-	
at I _F =10A	TA=25°C		0.51	-	
	TA=125°C		0.44	-	
at I _F =15A	TA=25°C		0.56	0.65	
	TA=125°C		0.51	-	
Maximum Reverse Current at V _R =45V	TA=25°C	I _R	20	100	uA
	TA=125°C		7	-	mA

Note2: Pulse test: 300 μs pulse width, 1 % duty cycle

RATINGS AND CHARACTERISTIC CURVES

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

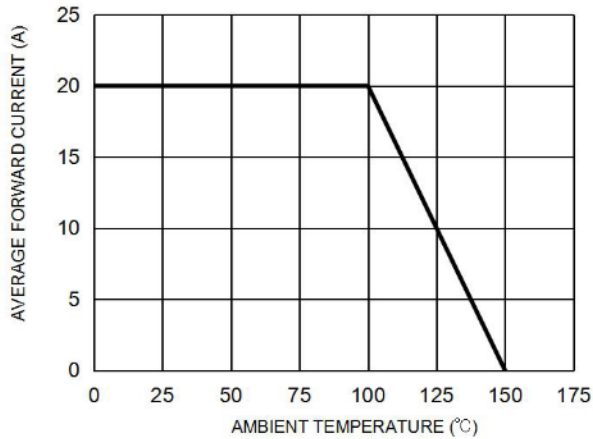


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

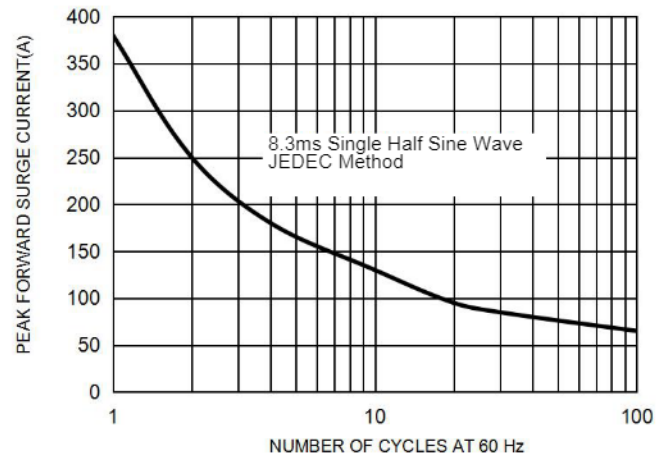


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

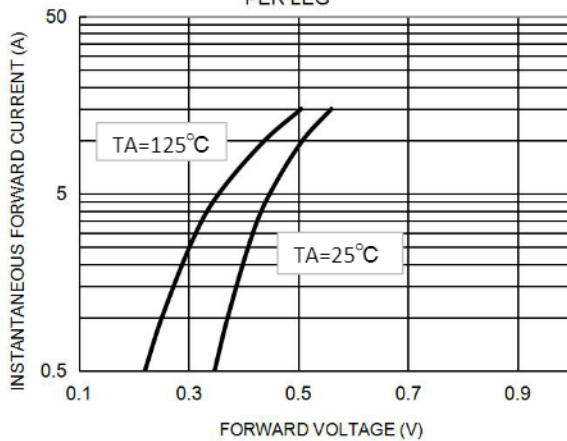
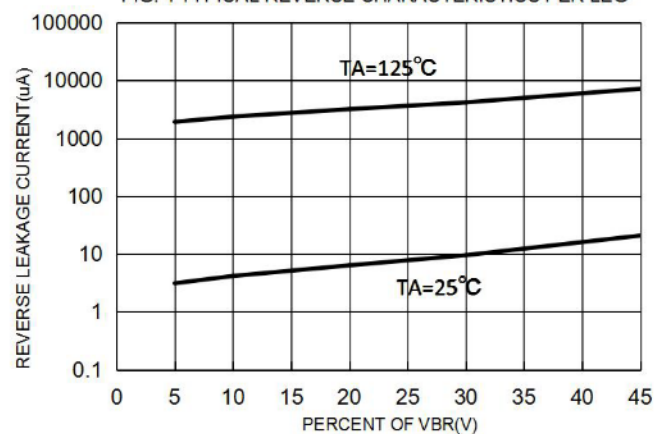
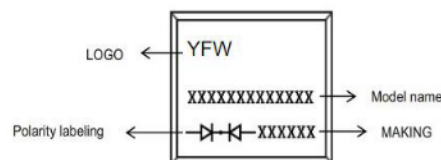


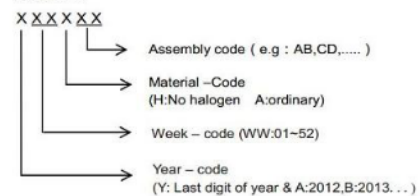
FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG



Marking on the body



MAKING:



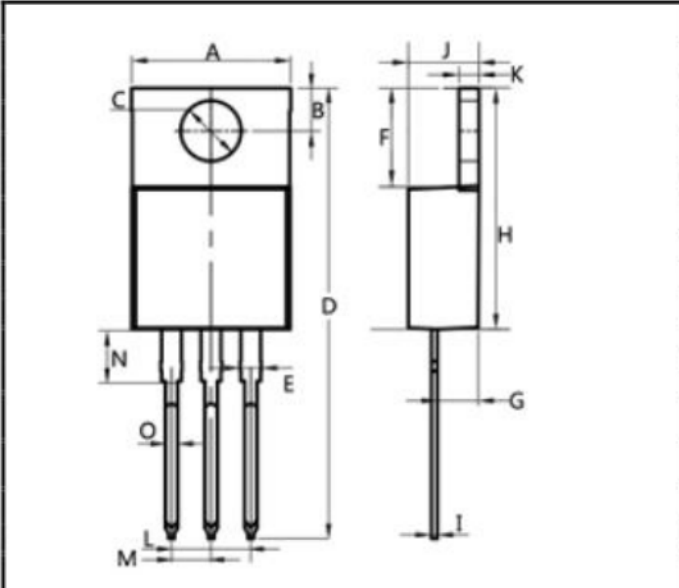
Ordering information

Part Number	Package	Unit Weight	Base Quantity	Delivery mode
MBR4045CT	TO-220AB	0.07oz(1.96g)	50 pcs / tube	1000pcs/box 5000pcs/carton
MBR4045FCT	TO-220F	0.06oz(1.74g)	50 pcs / tube	1000pcs/box 5000pcs/carton
MBR4045DC	TO-263	0.04oz(1.16g)	50 pcs / tube	1000pcs/box 5000pcs/carton
MBR4045DC-R	O-263	0.04oz(1.16g)	800 pcs / reel	800pcs/box4000pcs/carton

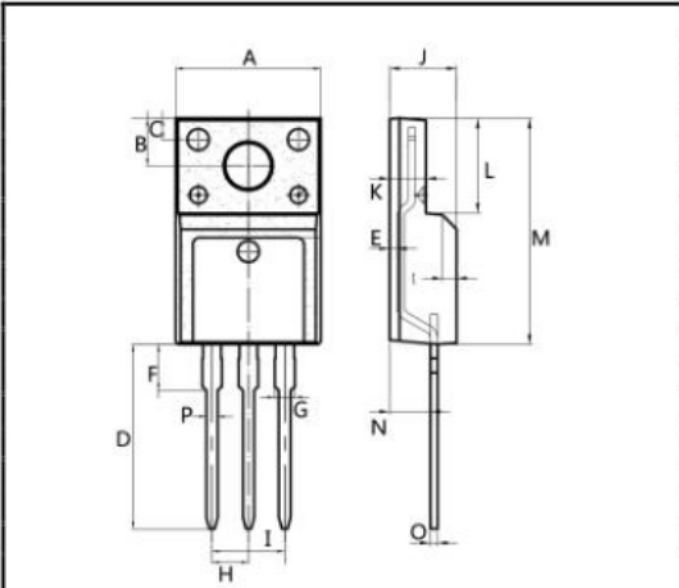
Note: For Halogen Free molding compound, add "H" suffix to part number above.

Package Outline Dimensions millimeters

TO-220AB

	Dim.	Min.	Max.
	A	10.15	10.35
	B	2.65	2.95
	C	3.70	3.90
	D	28.5	29.5
	E	1.30	1.45
	F	6.35	6.55
	G	2.9	3.3
	H	15.0	16.0
	I	0.38	0.42
	J	4.45	4.55
	K	1.25	1.35
	L	Typ 5.08	
	M	Typ 2.54	
	N	3.1	3.3
	O	0.76	0.84
All Dimensions in millimeter			

TO-220F

	Dim.	Min.	Max.
	A	9.95	10.25
	B	2.95	3.25
	C	1.25	1.45
	D	12.95	13.25
	E	0.50	0.65
	F	3.1	3.3
	G	1.30	1.45
	H	Typ 2.54	
	I	Typ 5.08	
	J	4.60	4.75
	K	2.50	2.65
	L	6.35	6.55
	M	15.4	16.0
	N	2.75	3.05
	O	0.48	0.52
	P	0.76	0.84
All Dimensions in millimeter			

TO-263

