

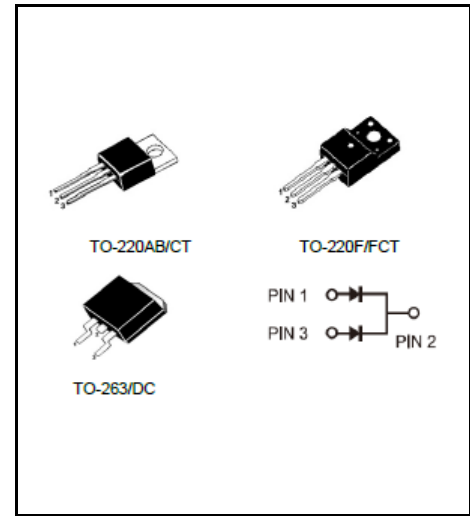
**SCHOTTKY BARRIER RECTIFIER**
**Reverse Voltage - 45 V**
**Forward Current - 40 A**

**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**

<b>I<sub>o</sub></b>	<b>2*20A</b>
<b>V<sub>RRM</sub></b>	<b>45V</b>
<b>I<sub>FSM</sub></b>	<b>380A</b>
<b>V<sub>F</sub></b>	<b>0.51V</b>
<b>T<sub>J</sub> Max</b>	<b>150°C</b>

**Maximum Ratings (Per Leg) at Ta=25°C unless otherwise specified**

Parameter	Symbols	Value	Units
Maximum Repetitive Peak Reverse Voltage	<b>V<sub>RRM</sub></b>	45	<b>V</b>
Maximum RMS voltage	<b>V<sub>RMS</sub></b>	45	<b>V</b>
Maximum DC Blocking Voltage	<b>V<sub>DC</sub></b>	45	<b>V</b>
Maximum Average Forward Rectified Current	Per Leg	20	<b>A</b>
	Total	40	
Peak Forward Surge Current, 8.3ms Single Half Sine-wave	<b>I<sub>FSM</sub></b>	380	<b>A</b>
Operating Temperature Range	<b>T<sub>J</sub></b>	-55 ~ +150	<b>°C</b>
Storage Temperature Range	<b>T<sub>STG</sub></b>	-55 ~ +150	<b>°C</b>
Typical Thermal Resistance <sup>(Note1)</sup> TO-220AB, TO-263 TO-220F	<b>R<sub>θJA</sub> R<sub>θJC</sub></b>	2/4	<b>°C/W</b>

**Note1: Thermal resistance from Junction to case per leg mounted on heatsink.**
**Electrical Characteristics (Per Leg) unless otherwise specified**

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

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

**RATINGS AND CHARACTERISTIC CURVES**

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

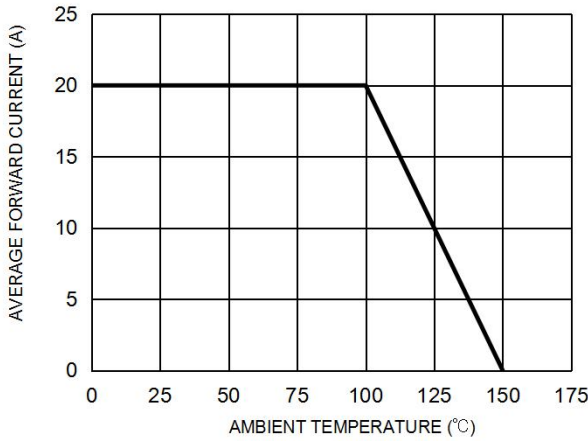


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

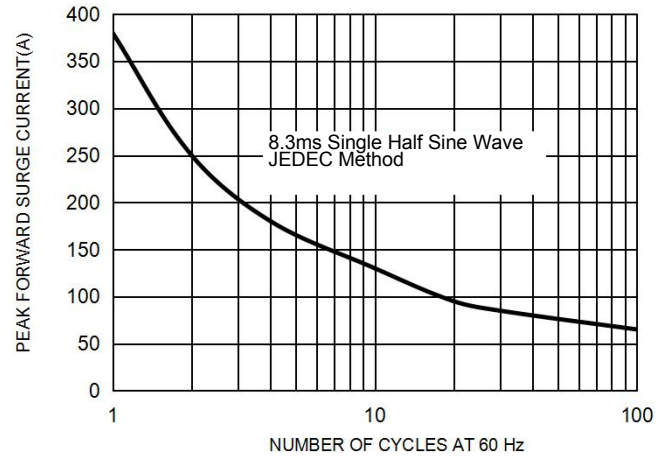


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

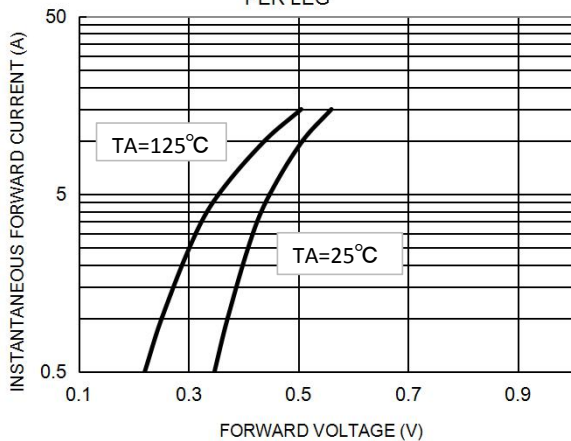
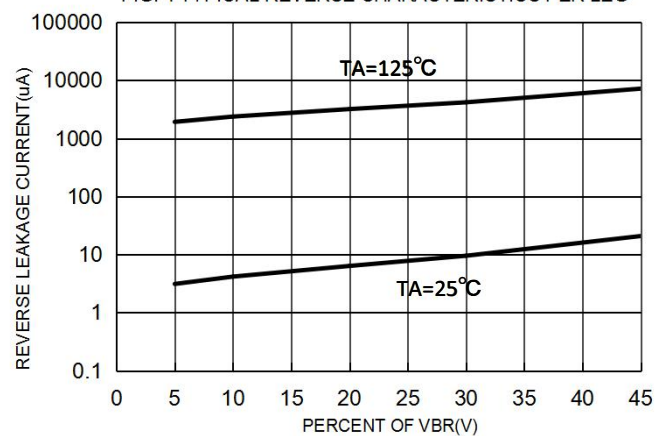


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG



**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

