

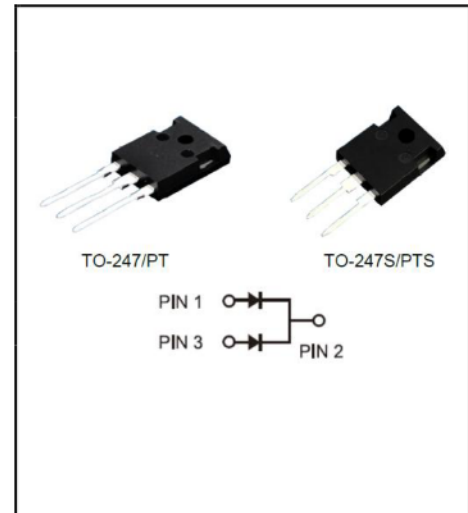
SCHOTTKY BARRIER RECTIFIER

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-247/PT TO-247/PTS
- ◆ 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 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-247PT, TO-247PTS	$R_{\theta JA}$ / $R_{\theta JC}$	2	°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 =20A	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

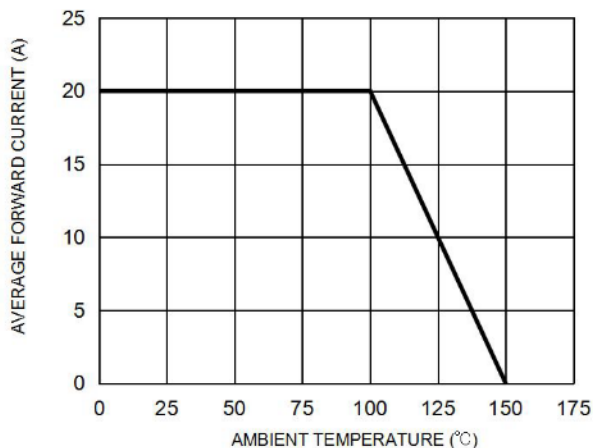


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

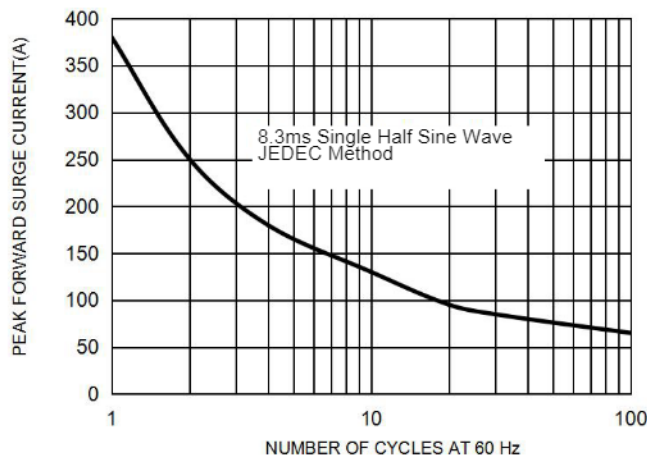


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

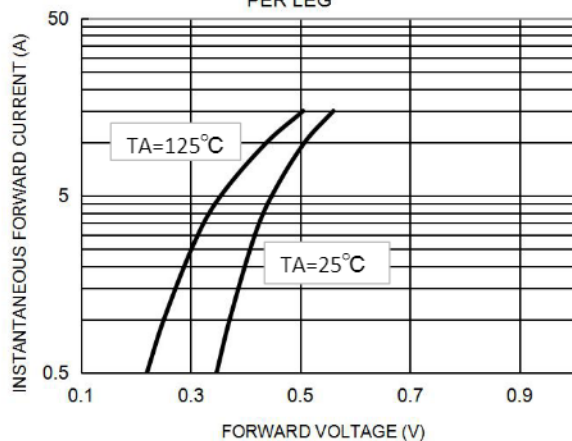
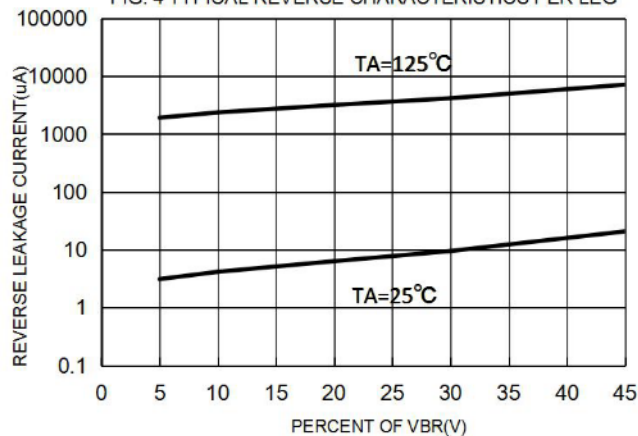
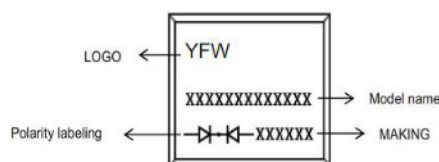


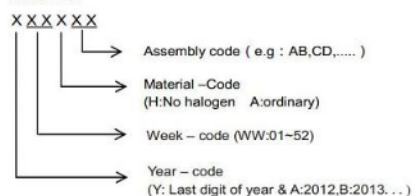
FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG



Marking on the body



MAKING:

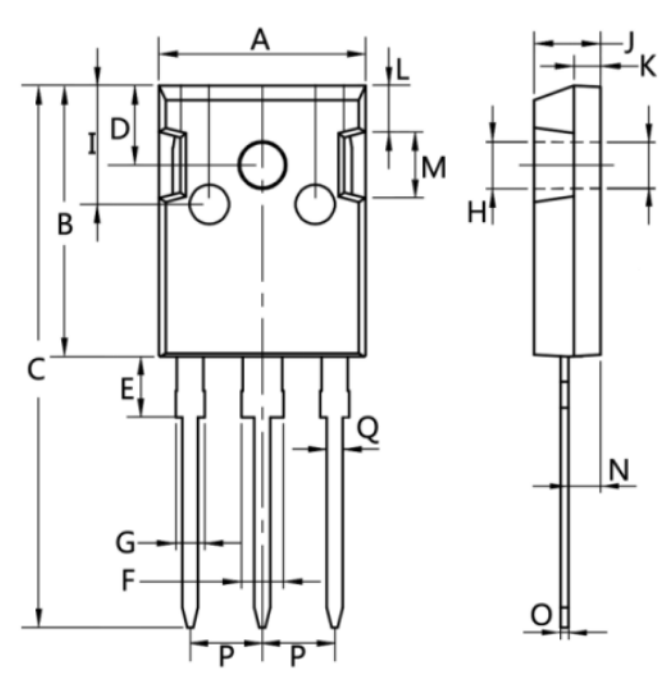


Ordering information

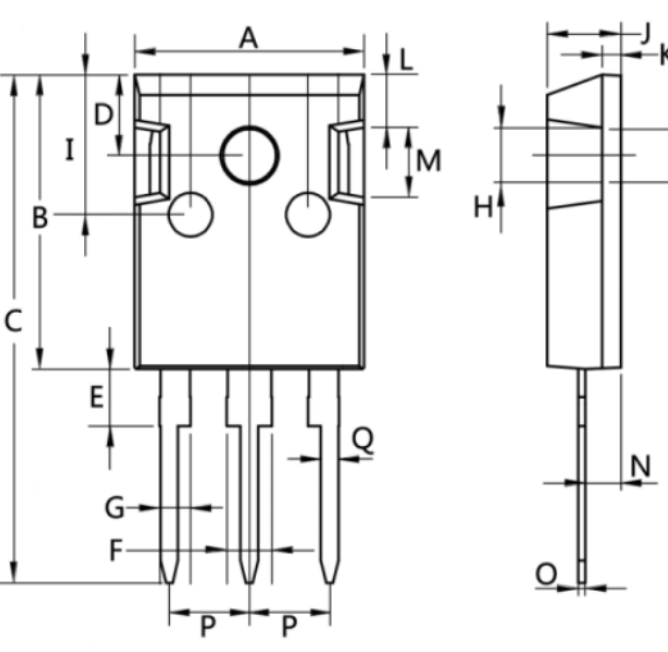
Part Number	Package	Unit Weight	Base Quantity	Delivery mode
MBR4045PT	TO-247	0.209oz(5.93g)	30 pcs / tube	600pcs/box 2400pcs/carton
MBR4045PTS	TO-247S	0.158oz(4.48g)	30 pcs / tube	600pcs/box 2400pcs/carton

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

TO-247

	Dim.	Min.	Max.
	A	15.0	16.0
	B	20.0	21.0
	C	41.0	42.0
	D	5.0	6.0
	E	4.0	5.0
	F	2.5	3.5
	G	1.75	2.5
	H	3.0	3.5
	I	8.0	10.0
	J	4.9	5.1
	K	1.9	2.1
	L	3.5	4.0
	M	4.75	5.25
	N	2.0	3.0
	O	0.55	0.75
	P	Typ 5.08	
	Q	1.2	1.3
All Dimensions in millimeter			

TO-247S

	Dim.	Min.	Max.
	A	15.0	16.0
	B	19.5	20.5
	C	33.5	35.5
	D	5.0	6.0
	E	3.5	4.5
	F	2.5	3.5
	G	1.75	2.5
	H	3.0	4.0
	I	9.0	11.0
	J	4.9	5.1
	K	1.0	1.3
	L	3.75	4.25
	M	4.75	5.25
	N	1.8	2.2
	O	0.45	0.6
	P	Typ 5.08	
	Q	1.2	1.3
All Dimensions in millimeter			