

## Trench MOS Barrier Schottky Rectifier

**Reverse Voltage - 300 V**

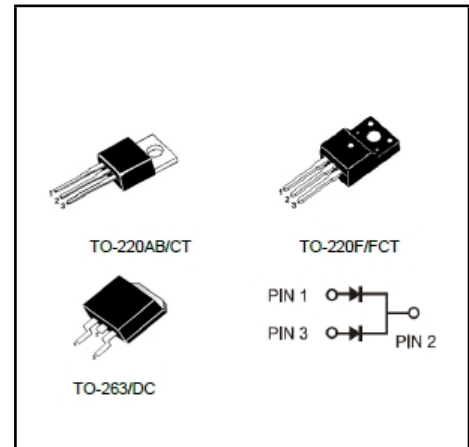
**Forward Current - 20 A**

### FEATURES

- ◆Very 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*10A</b>
<b>V<sub>RRM</sub></b>	<b>300V</b>
<b>I<sub>FSM</sub></b>	<b>180A</b>
<b>V<sub>F</sub></b>	<b>0.75V</b>
<b>T<sub>J</sub> Max</b>	<b>175°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>	300	<b>V</b>
Maximum RMS voltage	<b>V<sub>RMS</sub></b>	210	<b>V</b>
Maximum DC Blocking Voltage	<b>V<sub>DC</sub></b>	300	<b>V</b>
Maximum Average Forward Rectified Current	Per Leg	10	<b>A</b>
	Total	20	
Peak Forward Surge Current, 8.3ms Single Half Sine-wave	<b>I<sub>FSM</sub></b>	180	<b>A</b>
Operating Temperature Range	<b>T<sub>J</sub></b>	-50 ~ +175	<b>°C</b>
Storage Temperature Range	<b>T<sub>STG</sub></b>	-50 ~ +175	<b>°C</b>
Typical Thermal Resistance (Note1) 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> =3A	<b>V<sub>F</sub></b>	TA=25°C	0.75	0.82	<b>V</b>	
		TA=125°C	0.63	-		
		at I <sub>F</sub> =5A	TA=25°C	0.80		0.84
			TA=125°C	0.67		-
		at I <sub>F</sub> =10A	TA=25°C	0.87		0.90
			TA=125°C	0.75		-
Maximum Reverse Current at V <sub>R</sub> =300V	<b>I<sub>R</sub></b>	TA=25°C	0.2	1	<b>uA</b>	
		TA=125°C	5	-	<b>mA</b>	

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

**RATINGS AND CHARACTERISTIC CURVES**

FIG. 1 MAXIMUM FORWARD CURRENT DERATING CURVE

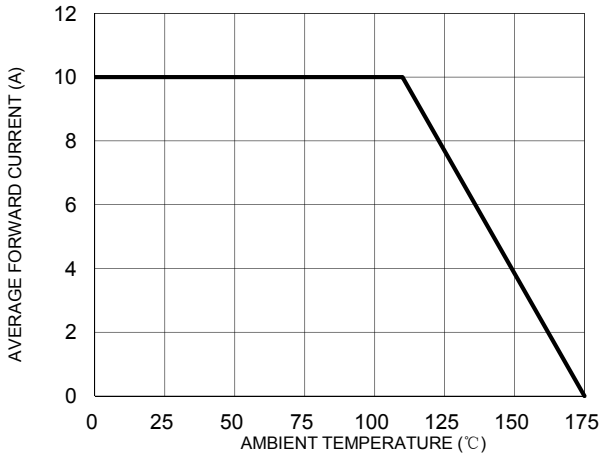


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

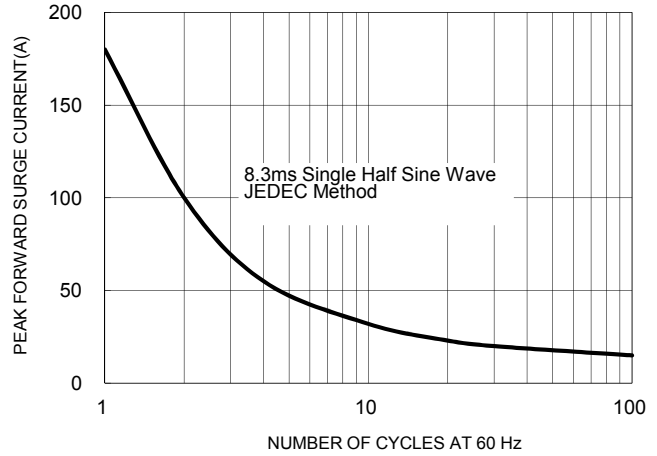


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

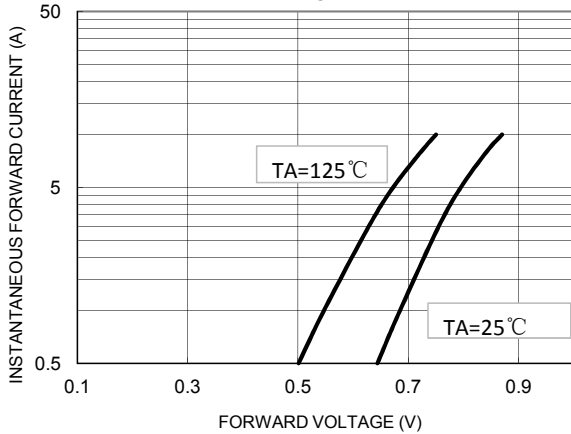
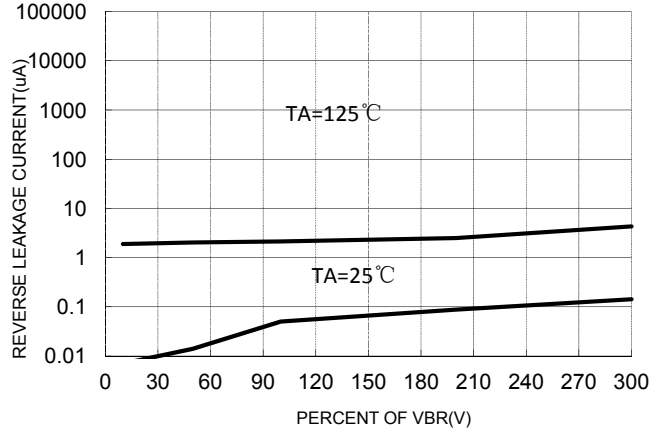
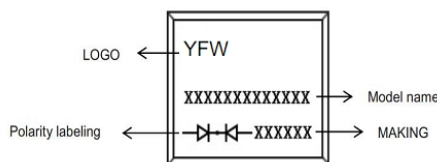


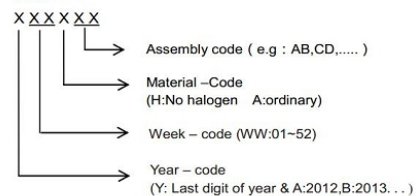
FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG



**Marking on the body**



**MAKING:**



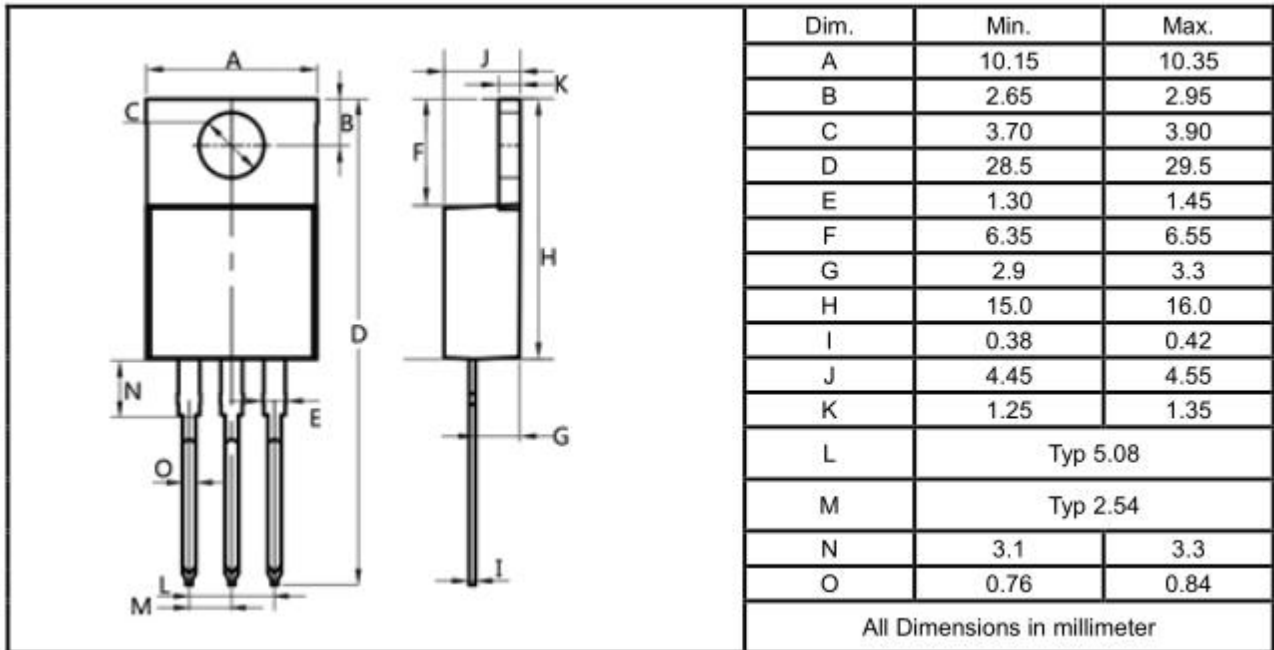
**Ordering information**

Part Number	Package	Unit Weight	Base Quantity	Delivery mode
HRM20V300CT	TO-220AB	0.07oz(1.96g)	50 pcs / tube	1000pcs/box 5000pcs/carton
HRM20V300FCT	TO-220F	0.06oz(1.74g)	50 pcs / tube	1000pcs/box 5000pcs/carton
HRM20V300DC-G	TO-263	0.04oz(1.16g)	50 pcs / tube	1000pcs/box 5000pcs/carton
HRM20V300DC	TO-263	0.04oz(1.16g)	800 pcs / reel	1600pcs/box 4000pcs/carton

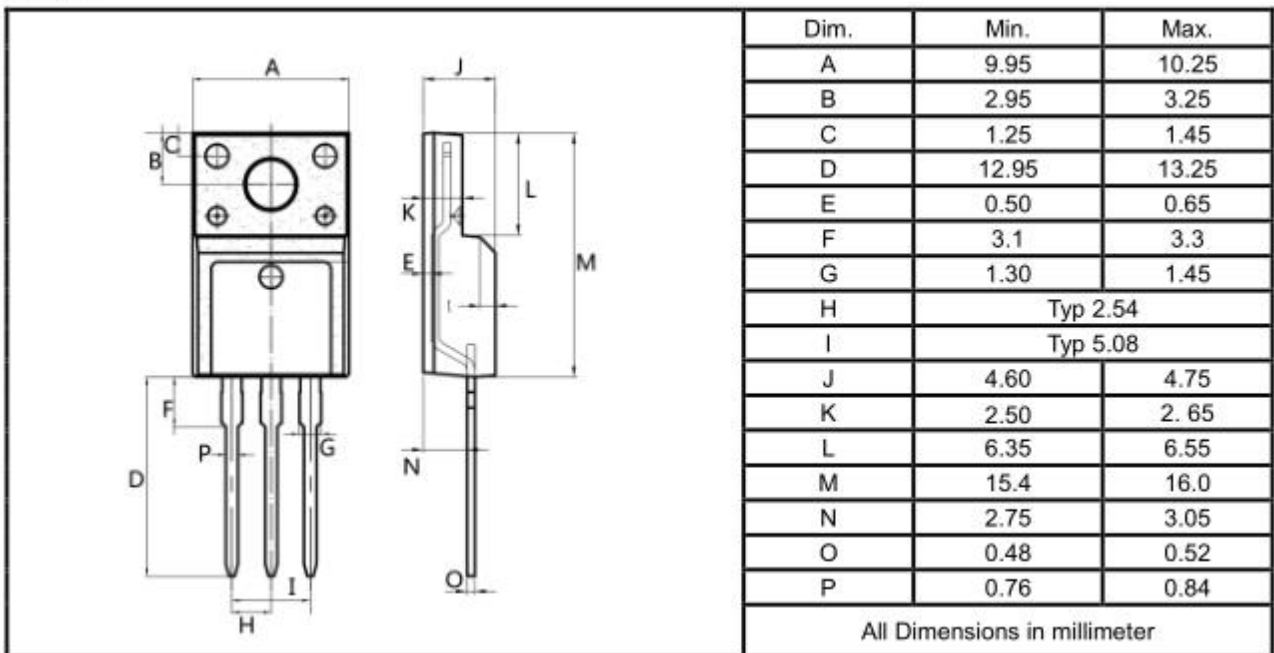
Note: For Halogen Free molding compound, add "H" suffix to part number above.

Package Outline Dimensions millimeters

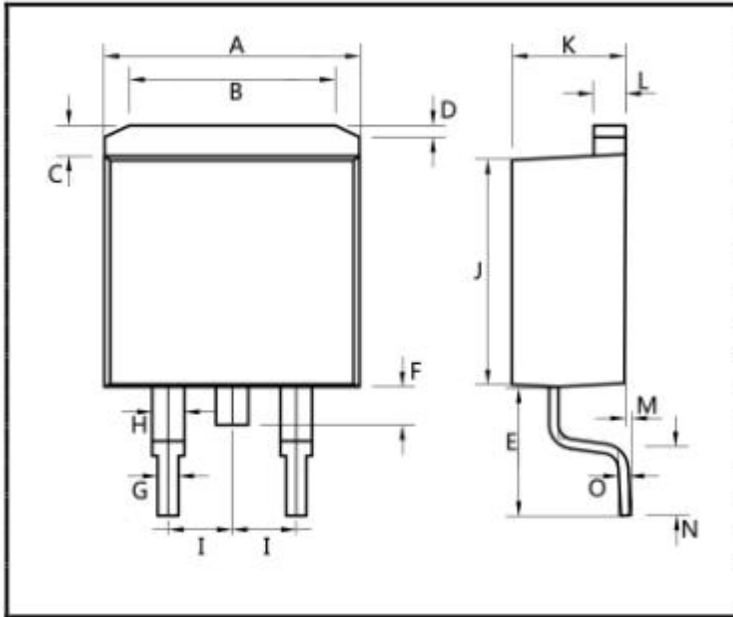
**TO-220AB**



**TO-220F**



TO-263



Dim.	Min.	Max.
A	10.1	10.2
B	7.4	7.6
C	1.3	1.5
D	0.55	0.75
E	5.0	6.0
F	1.4	1.6
G	0.78	0.86
H	1.2	1.3
I	Typ 2.54	
J	8.4	8.6
K	4.45	4.55
L	1.25	1.35
M	0.02	0.1
N	2.4	2.8
O	0.36	0.40
All Dimensions in millimeter		