

Trench MOS Barrier Schottky Rectifier

Reverse Voltage - 300 V

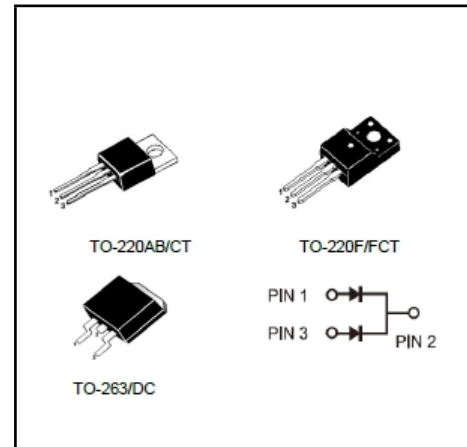
Forward Current - 20 A

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

I_o	2*10A
V_{RRM}	300V
I_{FSM}	250A
V_F	0.71V
T_J Max	175°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}	300	V
Maximum RMS voltage	V_{RMS}	210	V
Maximum DC Blocking Voltage	V_{DC}	300	V
Maximum Average Forward Rectified Current	Per Leg	10	A
	Total	20	
Peak Forward Surge Current, 8.3ms Single Half Sine-wave	I_{FSM}	250	A
Operating Temperature Range	T_J	-50 ~ +175	°C
Storage Temperature Range	T_{STG}	-50 ~ +175	°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
		Typ	Max	
Forward Voltage Drop(Note2)	V_F	0.74	-	V
at $I_F=3A$				
		TA=125°C		
at $I_F=5A$		TA=25°C	0.89	
		TA=125°C	-	
at $I_F=10A$		TA=25°C	0.95	
	TA=125°C	0.71	-	
Maximum Reverse Current at $V_R=300V$	I_R	0.05	1	uA
		0.05	-	mA

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

RATINGS AND CHARACTERISTIC CURVES

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

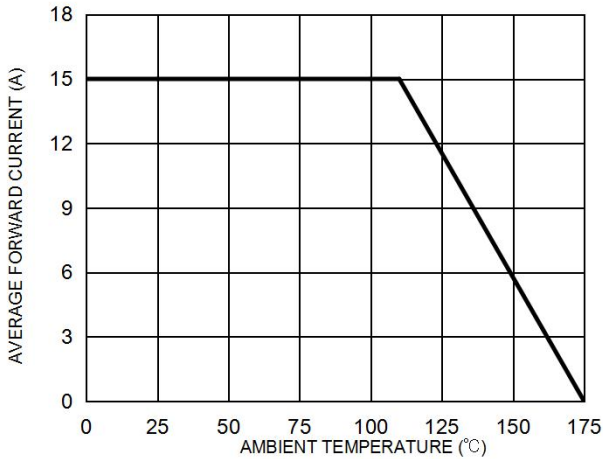


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

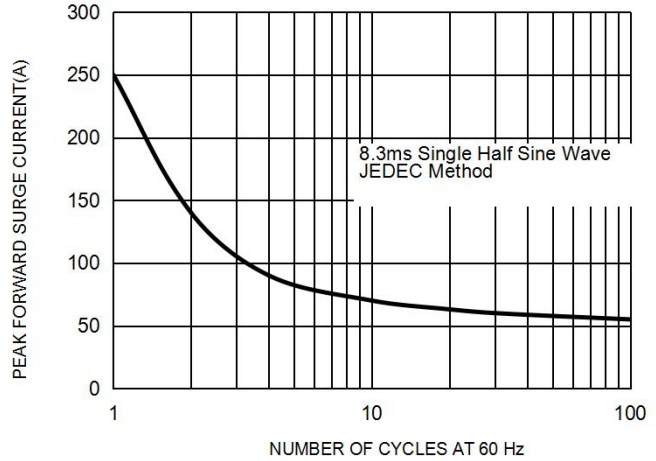


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

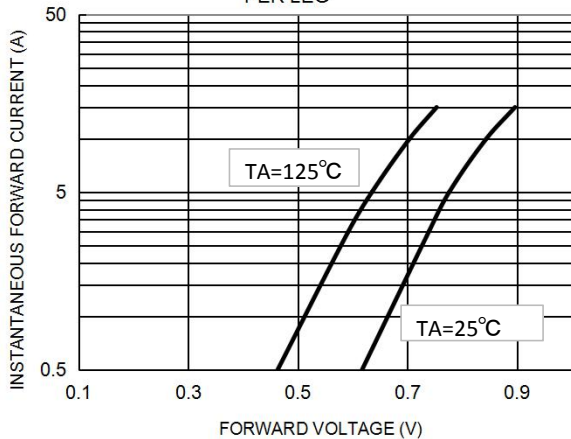
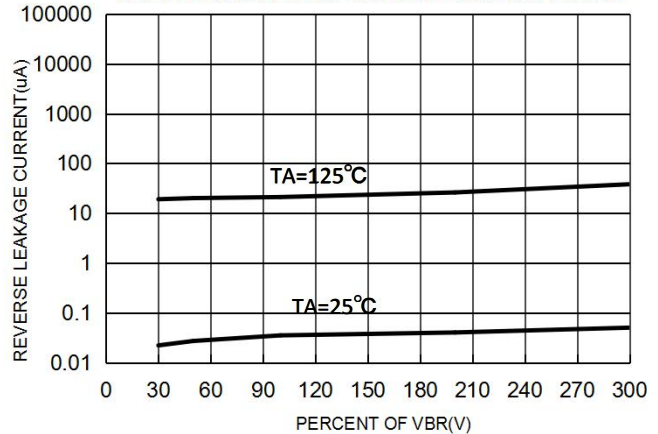


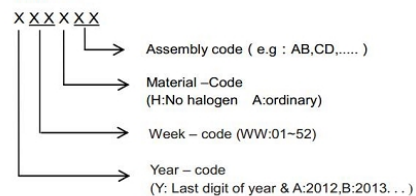
FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG



Marking on the body



MAKING:



Ordering information

Part Number	Package	Unit Weight	Base Quantity	Delivery mode
HRM20U300CT	TO-220AB	0.07oz(1.96g)	50 pcs / tube	1000pcs/box 5000pcs/carton
HRM20U300FCT	TO-220F	0.06oz(1.74g)	50 pcs / tube	1000pcs/box 5000pcs/carton
HRM20U300DC-G	TO-263	0.04oz(1.16g)	50 pcs / tube	1000pcs/box 5000pcs/carton
HRM20U300DC	TO-263	0.04oz(1.16g)	800 pcs / reel	1600pcs/box4000pcs/carton

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

Package Outline Dimensions millimeters

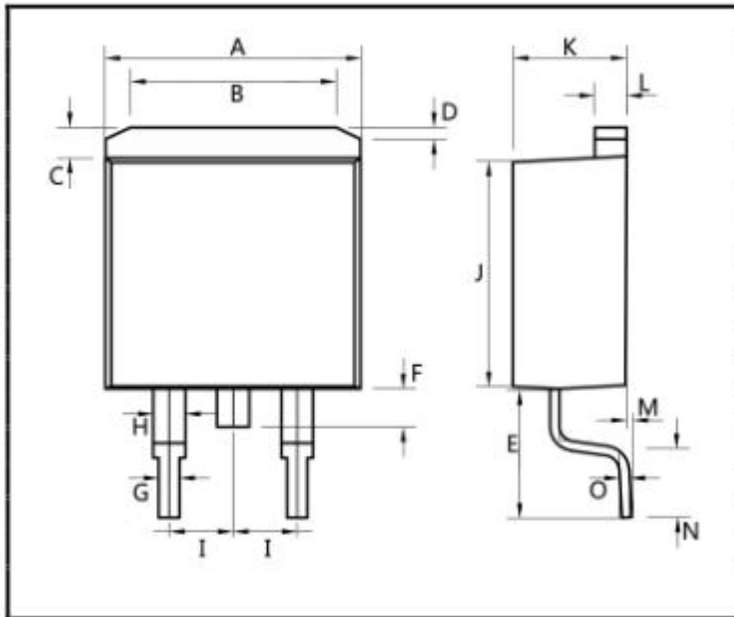
TO-220AB

	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



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		