

## Trench MOS Barrier Schottky Rectifier

Reverse Voltage - 300 V

Forward Current - 10 A

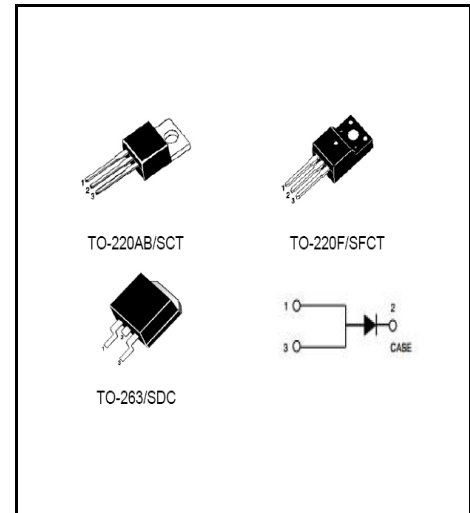


### FEATURES

- ◆ 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/SCT TO-220F/SFCT TO-263/SDC
- ◆ Solder bath temperature 275°C maximum, 10s per JESD22-106



### Primary Characteristic

$I_o$	10A
$V_{RRM}$	300V
$I_{FSM}$	250A
$V_F$	0.71V
$T_J \text{ Max}$	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	$V_{RMS}$	300	V
Maximum DC Blocking Voltage	$V_{DC}$	300	V
Maximum Average Forward Rectified Current	$I_o$	10	A
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 <sup>(Note1)</sup> 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 $I_F=3A$	$T_A=25^\circ\text{C}$		0.74	-	
	$T_A=125^\circ\text{C}$		0.60	-	
at $I_F=5A$	$T_A=25^\circ\text{C}$		0.78	0.89	
	$T_A=125^\circ\text{C}$		0.64	-	
at $I_F=10A$	$T_A=25^\circ\text{C}$		0.84	0.95	
	$T_A=125^\circ\text{C}$	0.71	-		
Maximum Reverse Current at $V_R=300V$	$T_A=25^\circ\text{C}$	$I_R$	0.02	2	uA
	$T_A=125^\circ\text{C}$		0.05	-	mA

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

**RATINGS AND CHARACTERISTIC CURVES**

FIG. 1 MAXIMUM FORWARD CURRENT DERATING CURVE

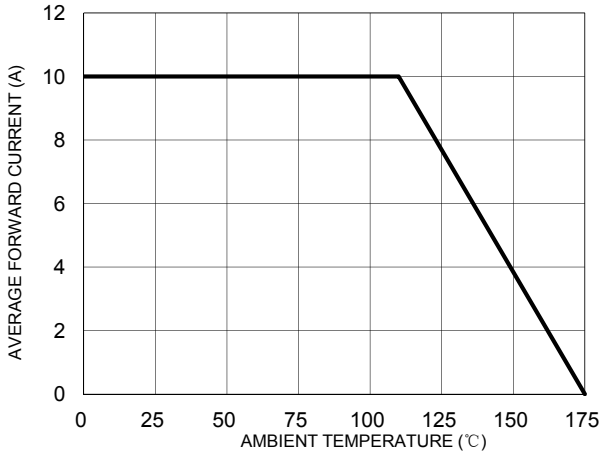


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

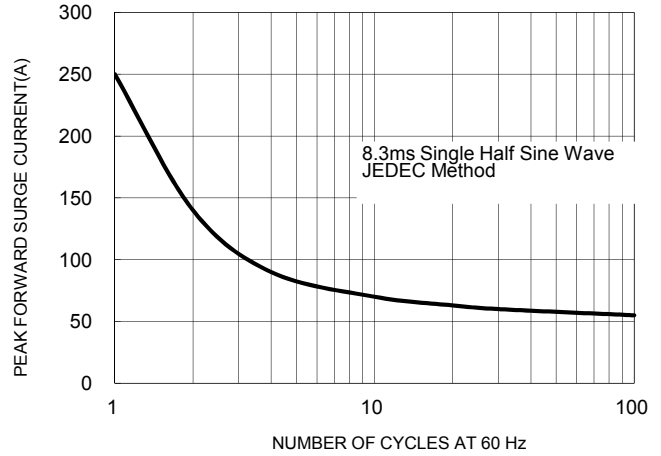


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

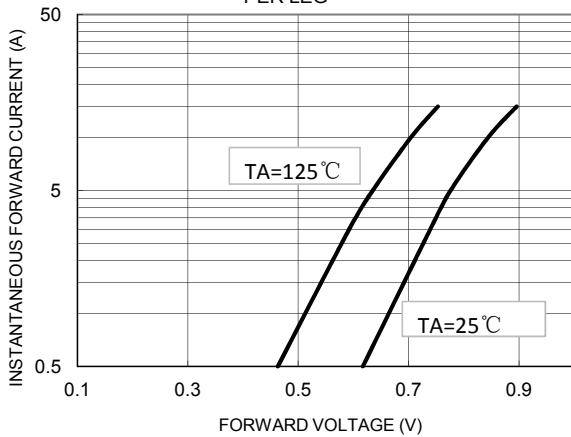
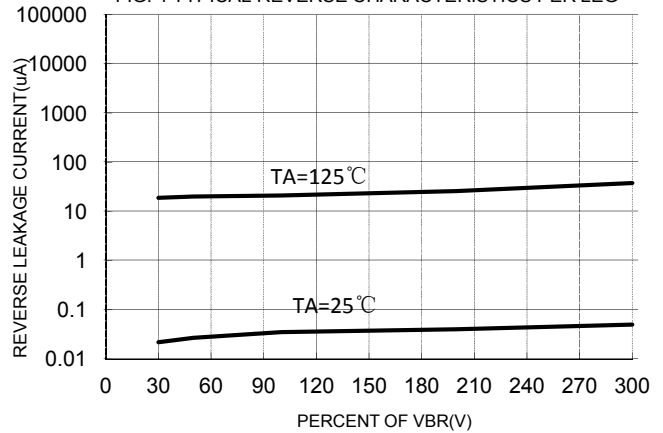
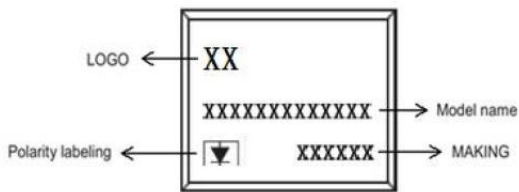


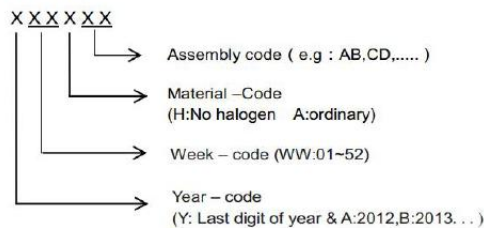
FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG



**Marking on the body**



MAKING:



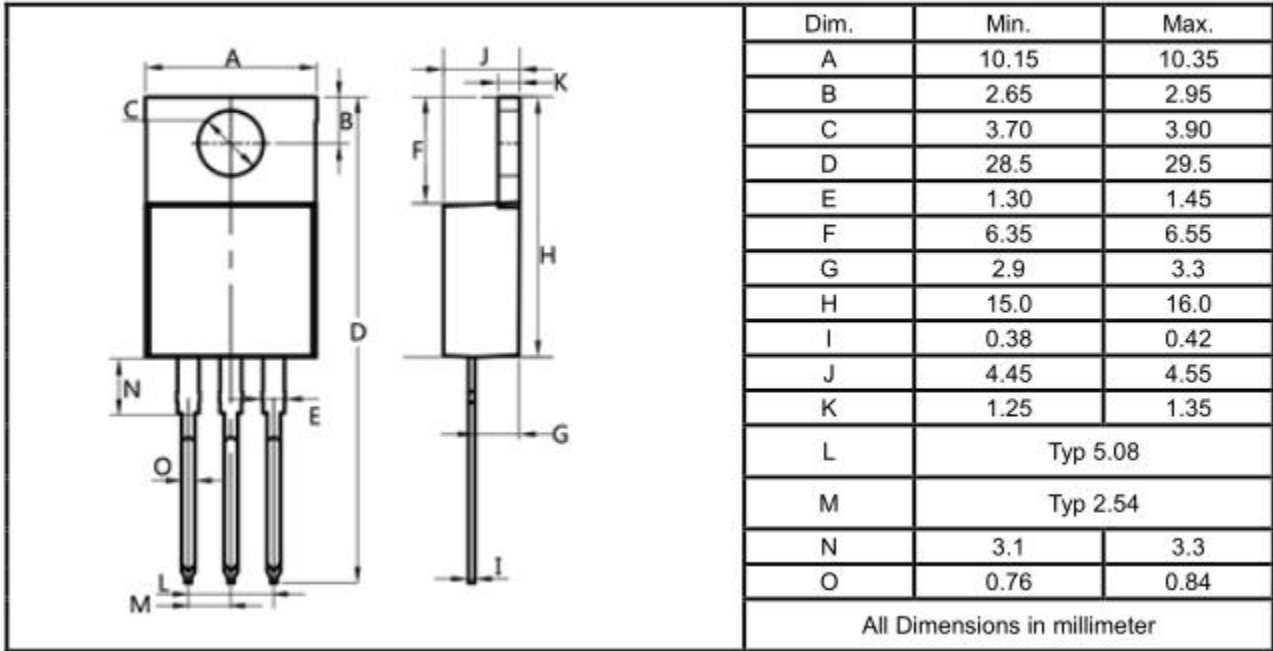
**Ordering information**

Part Number	Package	Unit Weight	Base Quantity	Delivery mode
HRM10L300SCT	TO-220AB	0.07oz(1.96g)	50 pcs / tube	1000pcs/box 5000pcs/carton
HRM10L300SFCT	TO-220F	0.06oz(1.74g)	50 pcs / tube	1000pcs/box 5000pcs/carton
HRM10L300SDC	TO-263	0.04oz(1.16g)	50 pcs / tube	1000pcs/box 5000pcs/carton
HRM10L300SDC-R	TO-263	0.04oz(1.16g)	800 pcs / reel	800pcs/box4000pcs/carton

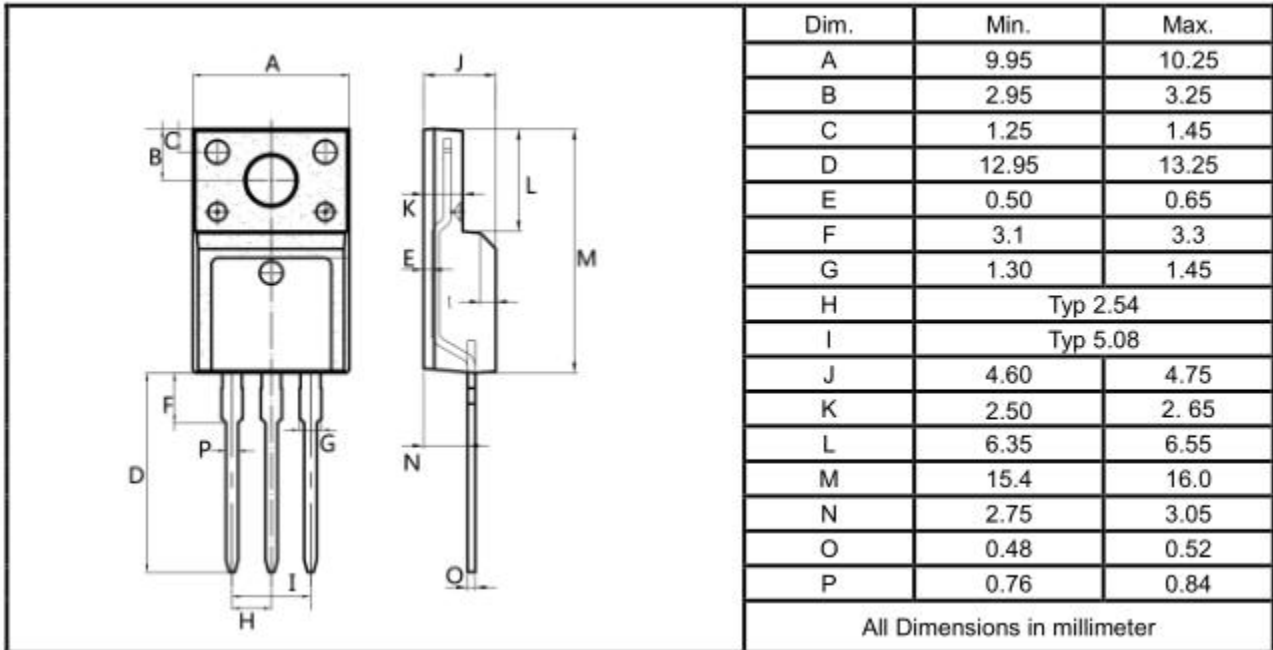
Note: For Halogen Free molding compound, add "H" suffix to part number above.

Package Outline Dimensions millimeters

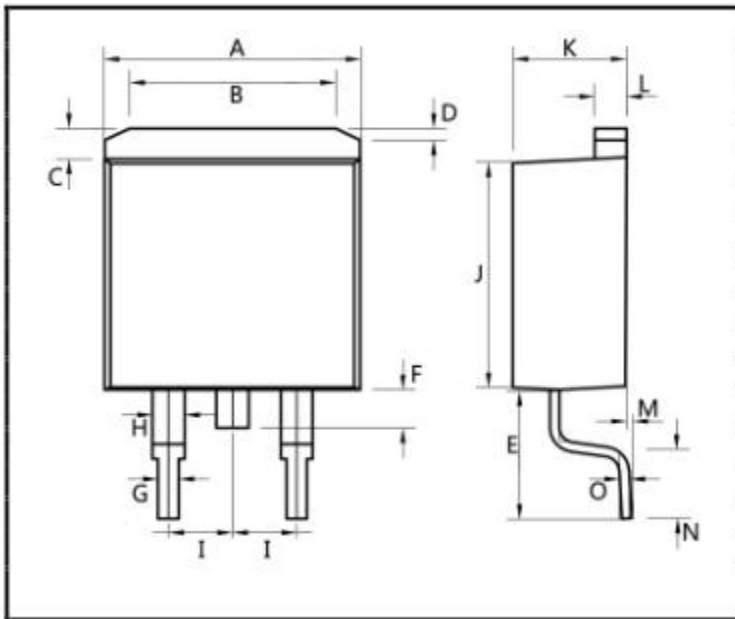
**TO-220AB**



**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		