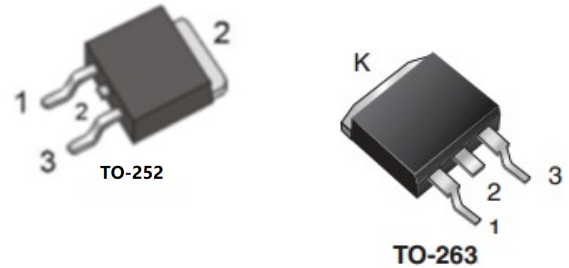
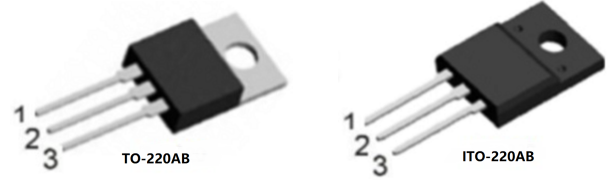




Voltage: 120Volts  
 Forward Current:20.0Amperes

### Features

- ◇ Schottky Barrier rectifier
- ◇ Guardring protection
- ◇ Ultra low forward voltage drop
- ◇ Low power loss,high efficiency
- ◇ Excellent low reverse leakages
- ◇ Excellent high temperature stability
- ◇ High current capability
- ◇ High forward surge capability
- ◇ Lead free finish ,Rohs and WEEE compliant.

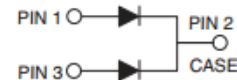


### Applications

- ◇ Switching diode
- ◇ Switching mode power supply(SMPS)
- ◇ DC/DC converter
- ◇ Reverse battery protection
- ◇ Adapter for notebook and game station

### Mechanical Data

- ◇ Moisture Sensitivity: MSL Level 1,per J-STD-020
- ◇ Terminals:Matte Tin Finish.  
Solderable per MIL-STD-202 Method 208
- ◇ Case Material: Molded Plastic;  
Molding compound meet UL Flammability Classification Rating 94V-0
- ◇ Case:JEDEC TO-220AB,ITO-220AB,TO-252,TO-263



### MAXIMUM RATING

Ratings at 25°C ambient temperature unless otherwise specified.

PARAMETER	SYMBOL	VALUE	UNITS	
Maximum repetitive peak reverse voltage	$V_{RRM}$	120	V	
Maximum RMS voltage	$V_{RWS}$	84	V	
Maximum DC blocking voltage	$V_{DC}$	120	V	
Maximum average forward rectified current	$I_{F(AV)}$	20	A	
per device		10		
Peak forward surge current 8.3ms half-sine-wave	$I_{FSM}$	200	A	
$I^2t$ Rating for Fusing( $t < 8.3ms$ )	$I^2t$	166	$A^2s$	
Typical Thermal Resistance	TO-220AB	$R_{\theta JA}$	23	$^{\circ}C/W$
		$R_{\theta JC}$	2.5	$^{\circ}C/W$
		$R_{\theta JL}$	3.0	$^{\circ}C/W$
	ITO-220AB	$R_{\theta JC}$	4.5	$^{\circ}C/W$
	TO-252	$R_{\theta JC}$	2.5	$^{\circ}C/W$
	TO-263	$R_{\theta JC}$	2.5	$^{\circ}C/W$
Typical junction capacitance: $V_R=4.0v, f=1MHz$	$C_J$	500	pF	
Junction temperature	$T_J$	175	$^{\circ}C$	
Storage temperature range	$T_{STG}$	-55~175	$^{\circ}C$	



### ELELTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	SYMBOL	VALUE			UNITS	
			Min	Typ	Max		
Breakdown voltage per diode(min)	IR=0.5mA	VB <sub>R</sub>	100	-	-	V	
Instantaneous forward voltage	IF=10A per lge	TA= 25°C	VF	-	0.82	0.85	V
		TA= 100°C	VF	-	0.75	-	V
		TA= 125°C	VF	-	0.69	-	V
	IF=5A per lge	TA= 25°C	VF	-	0.77	—	V
		TA= 100°C	VF	-	0.67	-	V
		TA= 125°C	VF	-	0.63	-	V
	IF=3A per lge	TA= 25°C	VF	-	0.62	-	V
		TA= 100°C	VF	-	0.60	-	V
		TA= 125°C	VF	-	0.58	-	V
Maximum DC reverse current @Rated DC Blocking Vlotage	TA= 25°C	IR	-	15	50	μ A	
	TA=125°C	IR	-	2	5	mA	

### ORDERING PACK INFORMATION

Part No.	Packge	Pcking	Quatity(pcs/box)	Quatity(pcs/carton)
MBR20120LCT	TO-220	50pcs/Tube	1000	5000
MBRF20120LCT	ITO-220	50pcs/Tube	1000	5000
MBRD20120LCT	TO-252	80pcs/Tube	4000	40000
MBRD20120LCT	TO-252	2500pcs/Reel	2500	12500/25000
MBRB20120LCT	TO-263	50pcs/Tube	1000	5000/10000
MBRB20120LCT	TO-263	800pcs/Reel	800	4000/8000



## RATING AND CHARACTERISTICS CURVES

FIG.1-FORWARD CURRENT DERATING CURVE

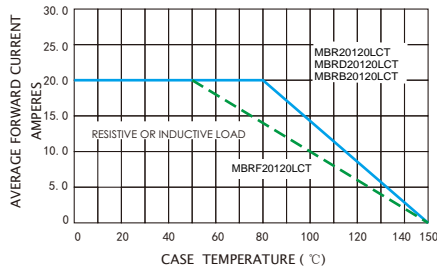


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

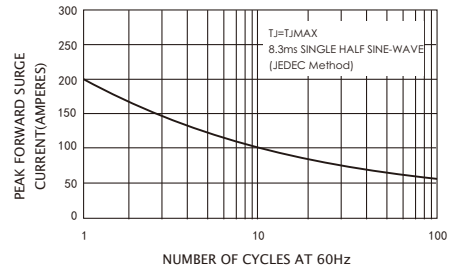


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

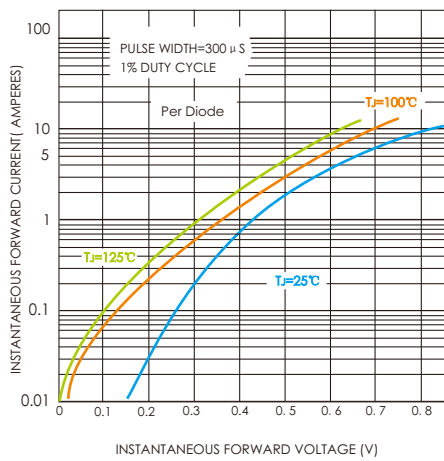


FIG.4-TYPICAL REVERSE CHARACTERISTICS

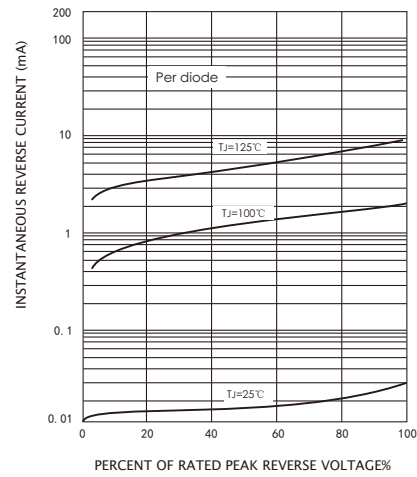
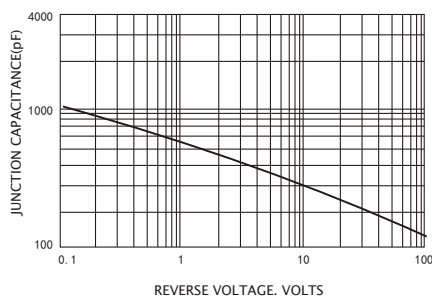


FIG.5-TYPICAL JUNCTION CAPACITANCE

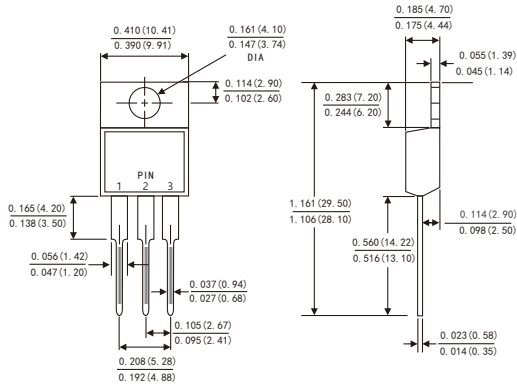


**PACKAGE OUTLINE DIMENSIONS**

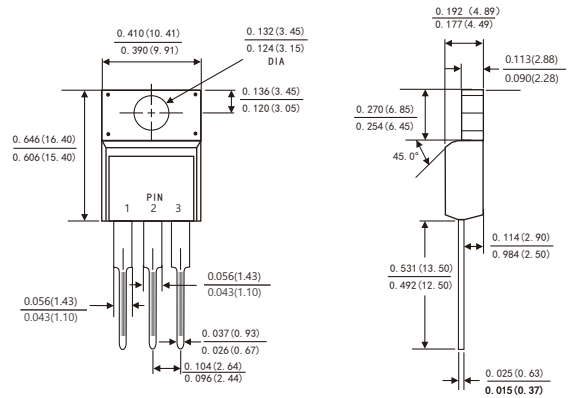


Dimensions in inches and (millimeters)

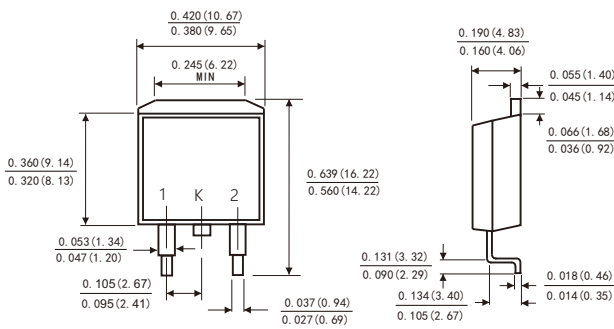
**TO-220AB**



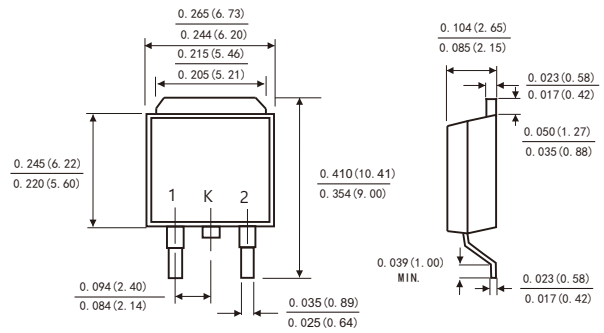
**ITO-220AB**



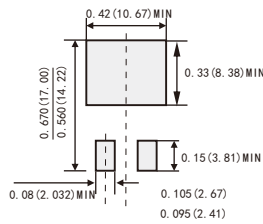
**TO-263**



**TO-252**



**Suggested Pad Layout (TO-263)**



**Suggested Pad Layout (TO-252)**

