


 Reverse Voltage: 45Volts  
 Forward Current: 30Amperes

### Features

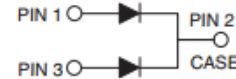
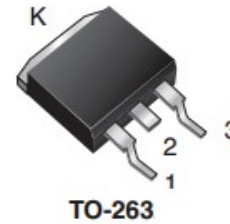
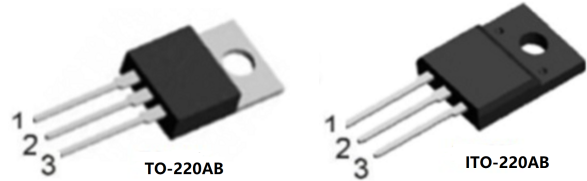
- ◇ Trench Schottky Barrier technology
- ◇ Ultra low forward voltage drop
- ◇ Low power loss,high efficiency
- ◇ Excellent low reverse leakages
- ◇ Excellent high temperature stability
- ◇ High current capability
- ◇ High forward surge capability
- ◇ Lead free finish ,Rohs and WEEE compliant.

### Applications

- ◇ Switching diode
- ◇ Switching mode power supply(SMPS)
- ◇ DC/DC converter
- ◇ LED lighting
- ◇ 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 ClassificationRating 94V-0
- ◇ Case:JEDEC TO-220AB,ITO-220AB,TO-263



### MAXIMUM RATING

Ratings at 25°C ambient temperature unless otherwise specified.

PARAMETER	SYMBOL	VALUE	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	45	V
Maximum RMS voltage	$V_{RWS}$	32	V
Maximum DC blocking voltage	$V_{DC}$	45	V
Maximum average forward rectified current	$I_{F(AV)}$	30	A
per device Per diode		15	
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 <sup>2</sup> s
Typical Thermal Resistance	TO-220AB	$R_{\theta JA}$	23 °C/W
		$R_{\theta JC}$	2.5 °C/W
		$R_{\theta JL}$	3.0 °C/W
	ITO-220AB	$R_{\theta JC}$	4.5 °C/W
	TO-263	$R_{\theta JC}$	2.5 °C/W
Typical junction capacitance: $V_R=4.0v, f=1MHz$	$C_J$	800	pF
Junction temperature	$T_J$	150	°C
Storage temperature range	$T_{STG}$	-55~150	°C


**ELECTRICAL CHARACTERISTICS**

PARAMETER	TEST CONDITIONS	SYMBOL	VALUE			UNITS	
			Min	Typ	Max		
Breakdown voltage per diode(min)	IR=0.5mA	$V_{BR}$	45	-	-	V	
Instantaneous forward voltage	IF=15A per leg	TA= 25°C	VF	-	0.46	0.50	V
		TA= 125°C	VF	-	0.43	0.48	V
	IF=5A per leg	TA= 25°C	VF	-	0.36	0.40	V
		TA= 125°C	VF	-	0.28	-	V
Maximum DC reverse current @Rated DC Blocking Voltage	TA= 25°C	IR	-	80	200	μA	
	TA= 100°C	IR	-	-	12.5	mA	
	TA=125°C	IR	-	20	50	mA	

**ORDERING PACK INFORMATION**

Part No.	Package	Packing	Box Size L×W×H(mm)	Quantity(pcs/box)	Carton Size L×W×H(mm)	Quantity(pcs/carton)
MBR3045LCT	TO-220AB	50pcs/Tube	558×148×38	1000	565×225×170	5000
MBRF3045LCT	ITO-220AB	50pcs/Tube	558×148×38	1000	565×225×170	5000
MBRB3045LCT	TO-263	50pcs/Tube	560×178×35	1000	585×385×220	10000
MBRB3045LCT	TO-263	800pcs/Reel	340×336×36	800	400×353×365	8000



### RATINGS AND CHARACTERISTIC CURVES

FIG.1-FORWARD CURRENT DERATING CURVE

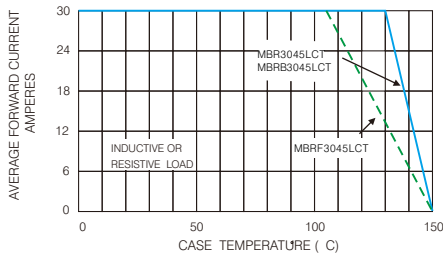


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

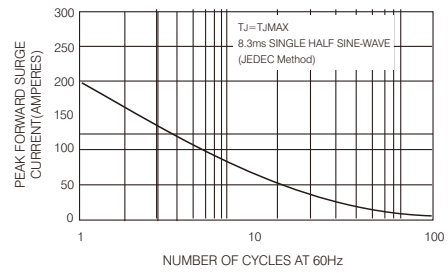


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

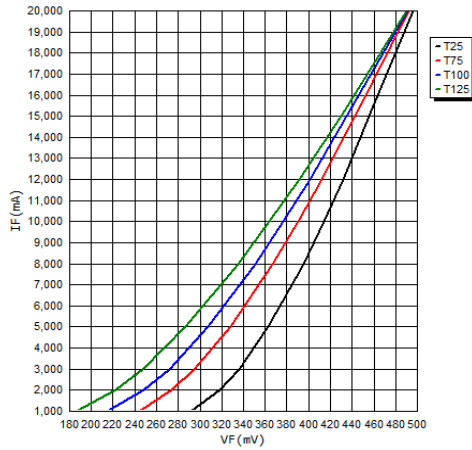


FIG.4-TYPICAL REVERSE CHARACTERISTICS

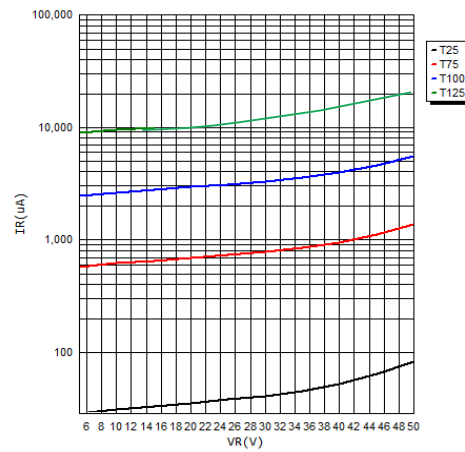
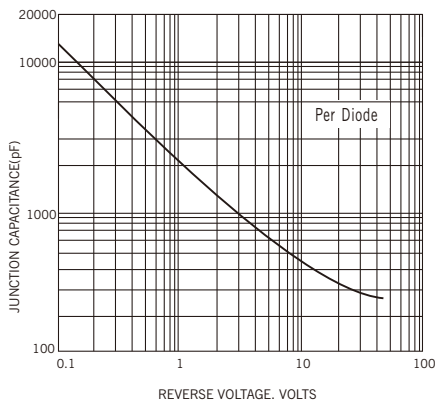


FIG.5-TYPICAL JUNCTION CAPACITANCE

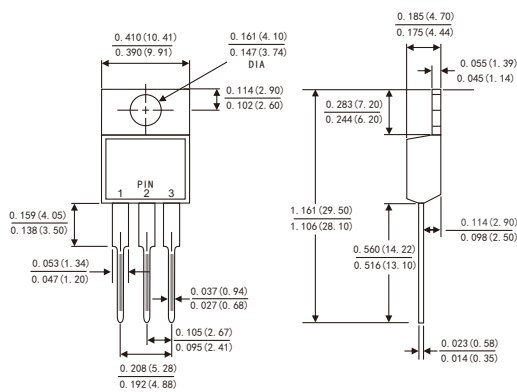




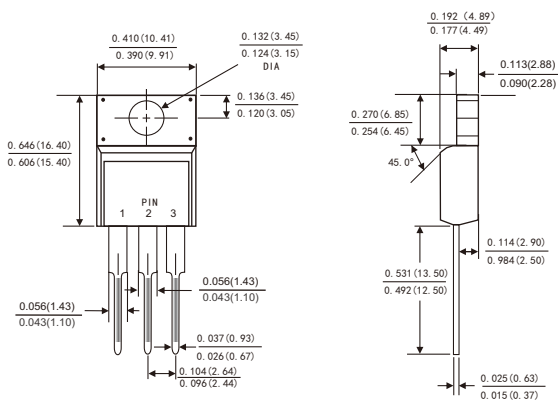
## PACKAGE OUTLINE DIMENSIONS

Dimensions in inches and (millimeters)

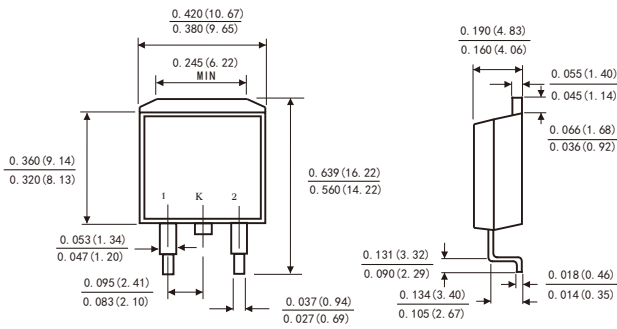
### TO-220AB



### ITO-220AB



### TO-263



### Suggested Pad Layout

