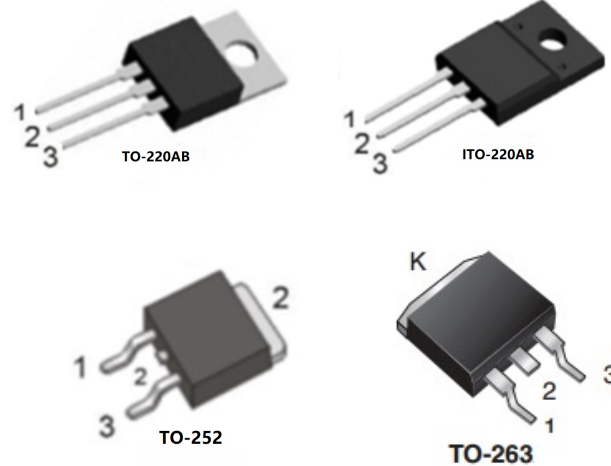


Features

- ◇ Negligible switching lossess
- ◇ Low forward voltage drop
- ◇ Low power loss,high efficiency
- ◇ Excellent low reverse leakages
- ◇ High Junction temperature stability
- ◇ High current capability
- ◇ High forward surge capability
- ◇ Lead free finish ,Rohs and WEEE compliant.

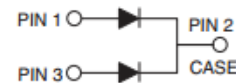


Applications

- ◇ Switching diode
- ◇ Switching mode power supply(SMPS)
- ◇ DC/DC converter
- ◇ LED lighting
- ◇ Adapter for notebook and game station

Mechanical Data

- ◇ Moisture Sensivity: 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, TO-252



Maximum Rating

Ratings at 25°C ambient tepmerature 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	$I_{F(AV)}$	10 5	A	
Peak forward surge current 8.3ms half-sine-wave	I_{FSM}	150	A	
I^2t Rating for Fusing($t < 8.3ms$)	I^2t	93.375	A^2s	
Typical Thermal Resistance	TO-220AB	$R_{\theta JA}$	13.6	$^{\circ}C/W$
		$R_{\theta JC}$	3.2	$^{\circ}C/W$
		$R_{\theta JL}$	3.4	$^{\circ}C/W$
	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	370	pF	
Junction temperature	T_J	150	$^{\circ}C$	
Storage temperature range	T_{STG}	-40~150	$^{\circ}C$	



Electrical Characteristics

PARAMETER	TEST CONDITIONS	SYMBOL	VALUE			UNITS	
			Min	Typ	Max		
Breakdown voltage per diode(min)	IR=0.2mA	V _{BR}	45	-	-	V	
Instantaneous forward voltage	IF=5.0A	TA= 25°C	V _F	-	0.43	0.45	V
		TA=100°C	V _F	-	0.35		V
		TA= 125°C	V _F	-	0.33		V
	IF=3.0A	TA= 25°C	V _F	-	0.40	0.42	V
		TA= 100°C	V _F	-	0.31		V
		TA= 125°C	V _F	-	0.29		V
Maximum DC reverse current @Rated DC Blocking Vlotage	TA= 25°C	I _R	-	100	200	μA	
	TA= 100°C	I _R	-	10	20	mA	
	TA=125°C	I _R	-	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)
MBR1045LCT	TO-220AB	50pcs/Tube	558×148×38	1000	570×290×180	5000
MBRF1045LCT	ITO-220AB	50pcs/Tube	558×148×38	1000	570×290×180	5000
MBRD1045LCT	TO-252	80pcs/Tube	560×178×38	4000	585×385×220	40000
MBRD1045LCT	TO-252	2500pcs/Reel	340×336×29	2500	353×346×365	25000
MBRB1045LCT	TO-263	50pcs/Tube	560×178×38	1000	585×385×220	10000
MBRB1045LCT	TO-263	800pcs/Reel	335×335×40	800	370×385×220	4800



Ratings And Characteristics Curves

FIG.1-FORWARD CURRENT DERATING CURVE

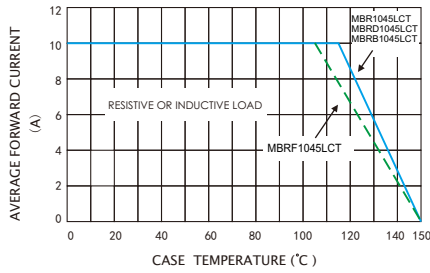


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

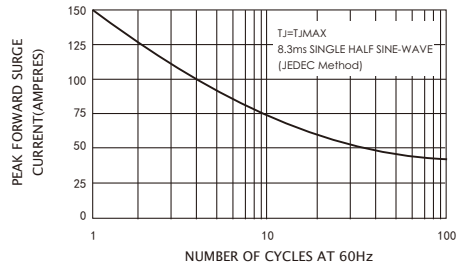


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

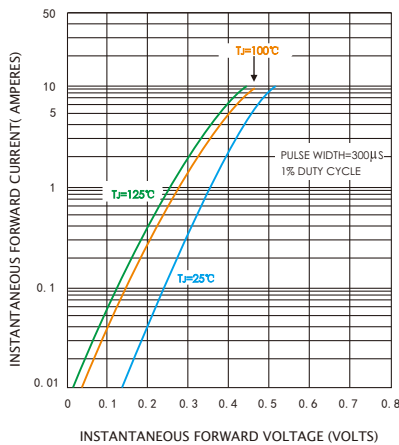


FIG.4-TYPICAL REVERSE CHARACTERISTICS

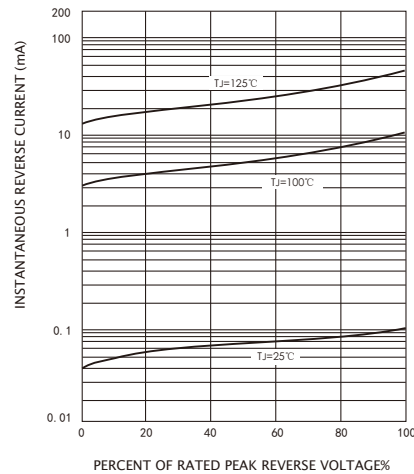
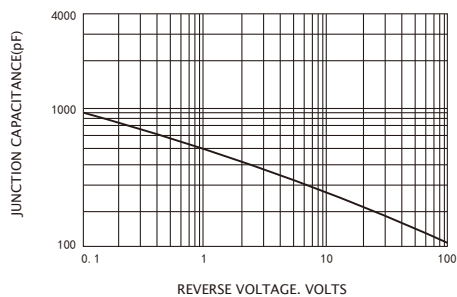


FIG.5-TYPICAL JUNCTION CAPACITANCE

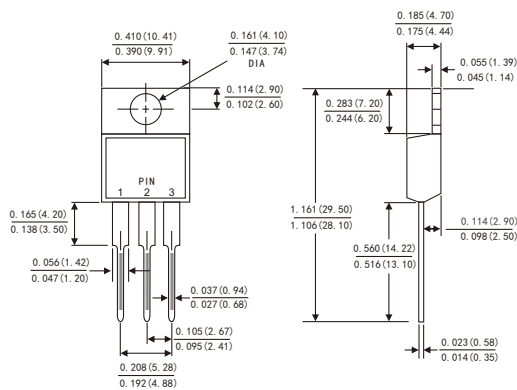




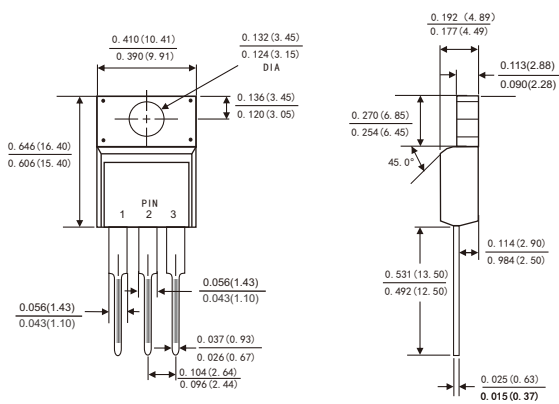
Package Outline Dimensions

Dimensions in inches and (millimeters)

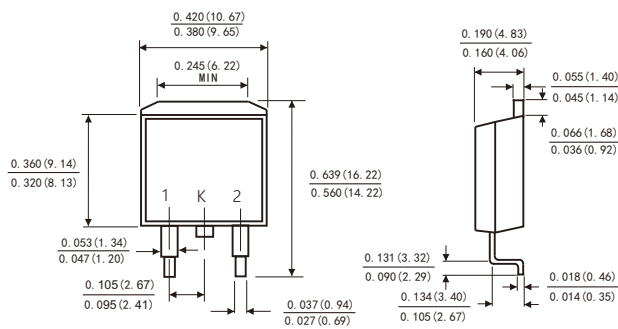
TO-220AB



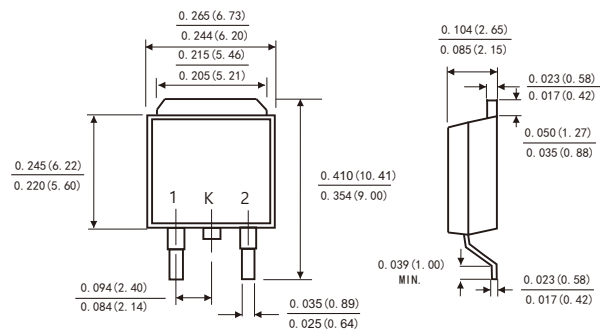
ITO-220AB



TO-263

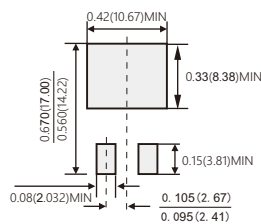


TO-252



Suggested Pad Layout

(TO-263)



Suggested Pad Layout

(TO-252)

