

Reverse Voltage: 250Volts

Forward Current:40.0Amperes

### 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

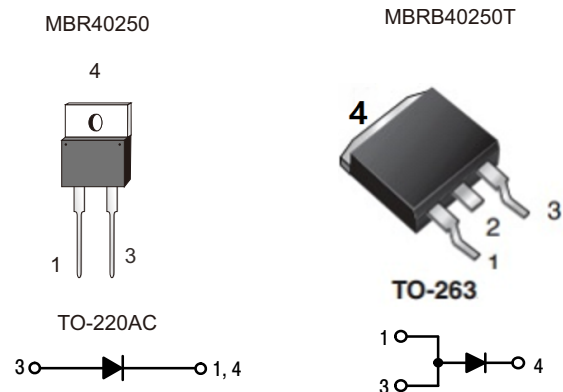
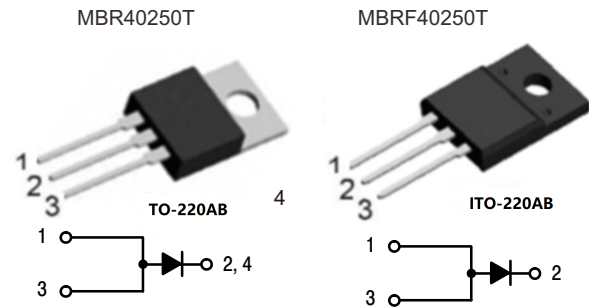
### Mechanical Data

- ◇ Moisture 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-220AC,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	$V_{RRM}$	250	V
Maximum RMS voltage	$V_{RWS}$	200	V
Maximum DC blocking voltage	$V_{DC}$	250	V
Maximum average forward rectified current	$I_{F(AV)}$	40	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 <sup>2</sup> s
Typical Thermal Resistance	MBR40250(T)	$R_{\theta JA}$	60 °C/W
	MBRF40250T	$R_{\theta JA}$	50 °C/W
	MBRB40250T	$R_{\theta JA}$	50 °C/W
	MBR40250(T)	$R_{\theta JC}$	2.0 °C/W
	MBRF40250T	$R_{\theta JC}$	3.0 °C/W
	MBRB40250T	$R_{\theta JC}$	2.0 °C/W
Typical junction capacitance: VR=4.0v,f=1MHz	$C_J$	500	pF
Junction temperature	$T_J$	175	°C
Storage temperature range	$T_{STG}$	-65~175	°C



**Electrical Characteristics**

PARAMETER	TEST CONDITIONS	SYMBOL	VALUE			UNITS
			Min	Typ	Max	
Breakdown voltage per diode(min)	IR=0.2mA	$V_{BR}$	250	-	-	V
Instantaneous forward voltage	IF=20.0A	TC= 25°C	$V_F$	-	0.85	V
		TC= 125°C	$V_F$	-	0.70	V
	IF=40.0A	TC= 25°C	$V_F$	-	0.95	V
		TC= 125°C	$V_F$	-	0.85	V
Maximum DC reverse current	TC= 25°C	$I_R$	-	5	$\mu A$	
@Rated DC Blocking Voltage	TC=125°C	$I_R$	-	30	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)
MBR40250	TO-220AC	50pcs/Tube	558×148×38	1000	570×290×180	5000
MBR40250T	TO-220AB	50pcs/Tube	558×148×38	1000	570×290×180	5000
MBRF40250T	ITO-220AB	50pcs/Tube	558×148×38	1000	570×290×180	5000
MBRB40250T	TO-263	50pcs/Tube	560×178×38	1000	585×385×220	10000
MBRB40250T	TO-263	800pcs/Reel	335×335×40	800	370×385×220	4800

### Ratings And Characteristics Curves

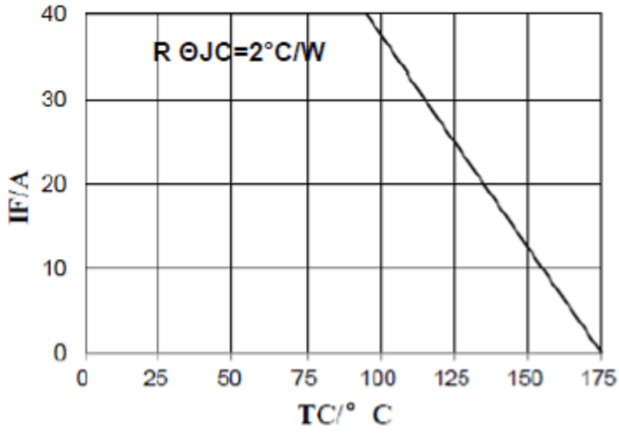


Fig.1 Current Dreating Curve

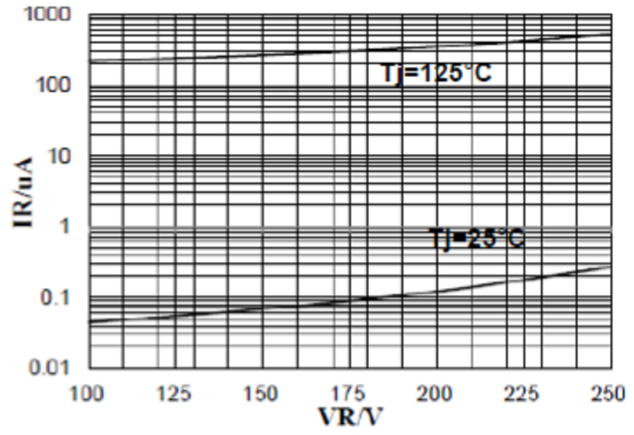


Fig.2 Typical Reverse Characteristic

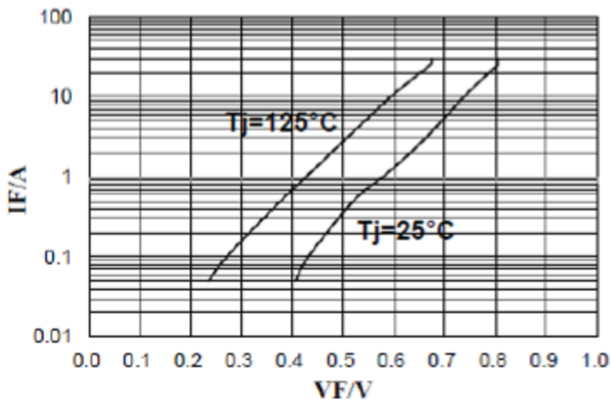
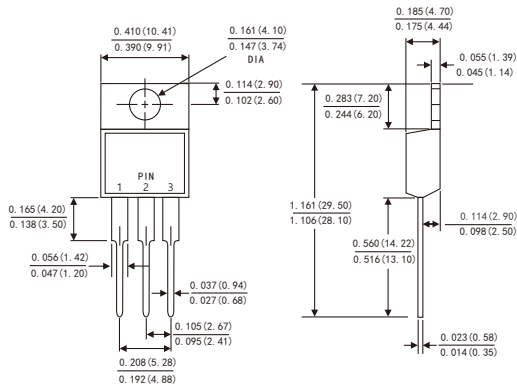


Fig.3 Typical Forward Characteristic

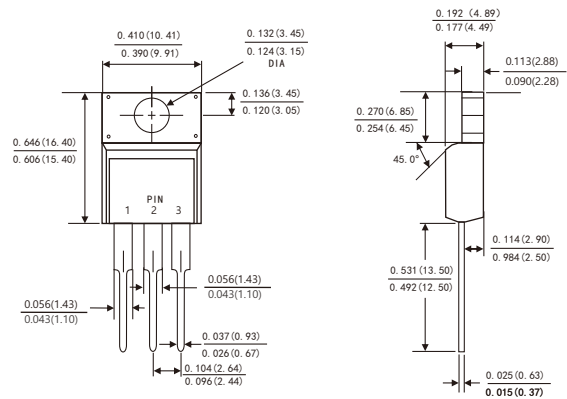
## Package Outline Dimensions

Dimensions in inches and (millimeters)

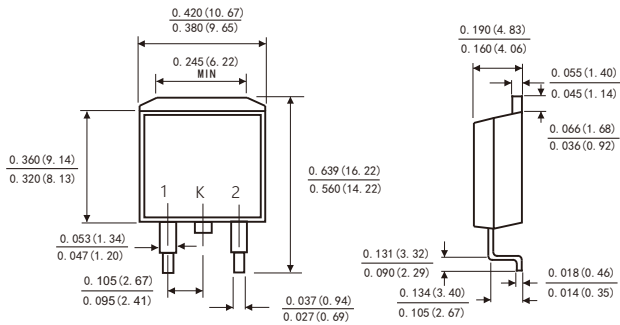
**TO-220AB**



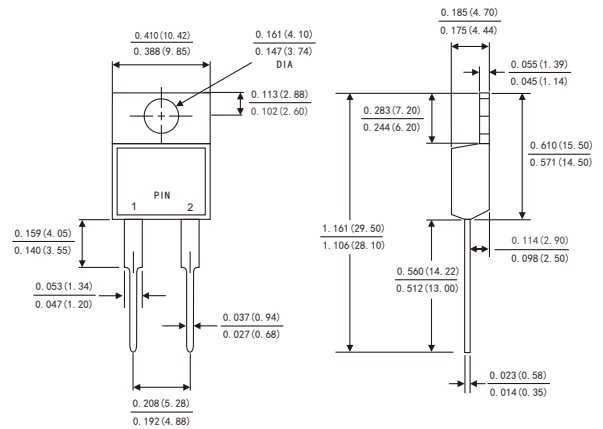
**ITO-220AB**



**TO-263**



**TO-220AC**



### Suggested Pad Layout

( TO-263 )

