



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.

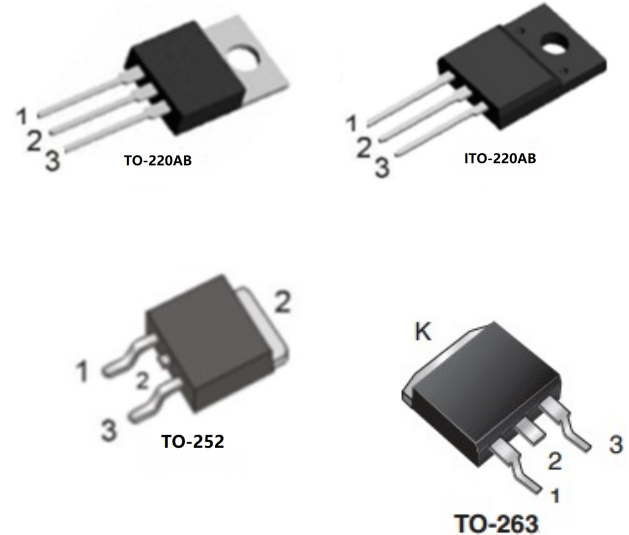
Reverse Voltage: 45Volts
Forward Current:40.0Amperes

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-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}	45	V
Maximum RMS voltage	V_{RWS}	32	V
Maximum DC blocking voltage	V_{DC}	45	V
Maximum average forward rectified current	$I_{F(AV)}$	40 20	A
Peak forward surge current 8.3ms half-sine-wave	I_{FSM}	220	A
I^2t Rating for Fusing($t < 8.3ms$)	I^2t	200	A ² s
Typical Thermal Resistance	TO-220AB	$R_{\theta JA}$	13.6 °C/W
		$R_{\theta JC}$	3.2 °C/W
		$R_{\theta JL}$	3.4 °C/W
	ITO-220AB	$R_{\theta JC}$	4.5 °C/W
	TO-252	$R_{\theta JC}$	2.5 °C/W
	TO-263	$R_{\theta JC}$	2.5 °C/W
Typical junction capacitance: VR=4.0v,f=1MHz	CJ	680	pF
Junction temperature	T_J	150	°C
Storage temperature range	TSTG	-55~150	°C



ELELTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS		SYMBOL	VALUE			UNITS
				Min	Typ	Max	
Breakdown voltage per diode(min)	IR=0.5mA		VB _R	100	-	-	V
Instantaneous forward voltage	IF=20A per leg	TA= 25℃	VF	-	0.52	0.55	V
		TA= 100℃	VF	-	0.50	-	V
		TA= 125℃	VF	-	0.49	-	V
	IF=10A per leg	TA= 25℃	VF	-	0.43	-	V
		TA= 100℃	VF	-	0.36	-	V
		TA= 125℃	VF	-	0.35	-	V
	IF=5A per leg	TA= 25℃	VF	-	0.38	-	V
		TA= 100℃	VF	-	0.32	-	V
		TA= 125℃	VF	-	0.30	-	V
Maximum DC reverse current	TA= 25℃		IR	-	100	200	μ A
@Rated DC Blocking Vlotage	TA=125℃		IR	-	-	20000	μ A

ORDERING PACK INFORMATION

Part No.	Packge	Pcking	Quatity(pcs/box)	Quatity(pcs/carton)
MBR4045LCT	TO-220	50pcs/Tube	1000	5000
MBRF4045LCT	ITO-220	50pcs/Tube	1000	5000
MBRD4045LCT	TO-252	80pcs/Tube	4000	40000
MBRD4045LCT	TO-252	2500pcs/Reel	2500	12500/25000
MBRB4045LCT	TO-263	50pcs/Tube	1000	5000/10000
MBRB4045LCT	TO-263	800pcs/Reel	800	4000/8000

RATING AND CHARACTERISTICS CURVES

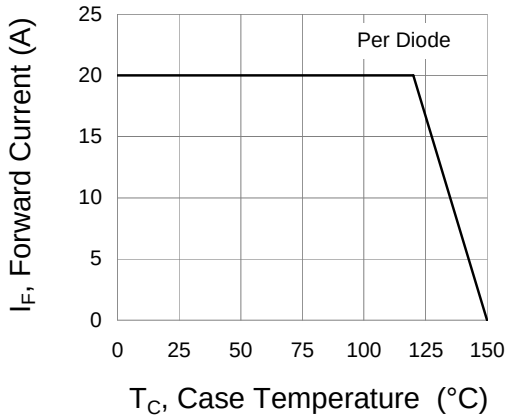


Fig.1 Forward Current Derating Curve

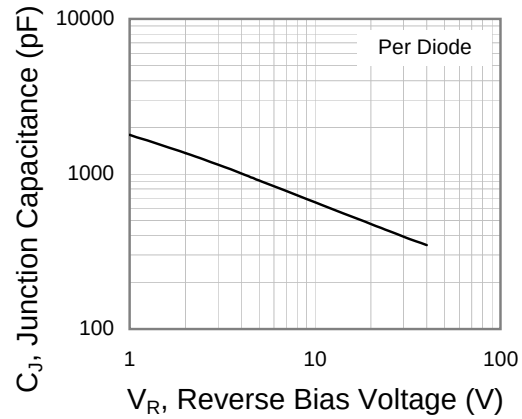


Fig.2 Typical Junction Capacitance

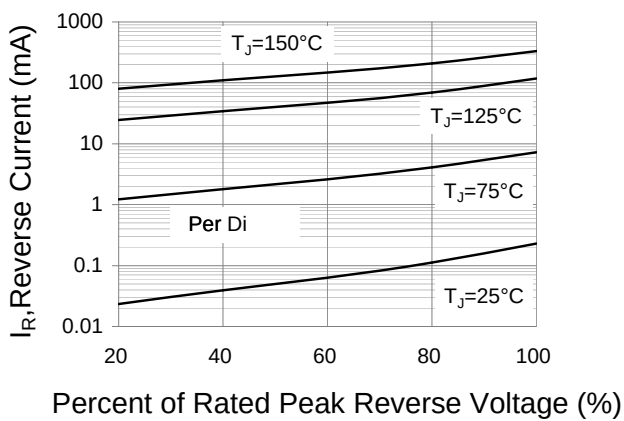


Fig.3 Typical Reverse Characteristics

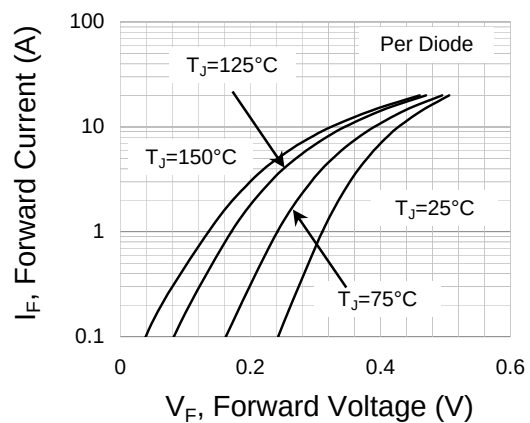
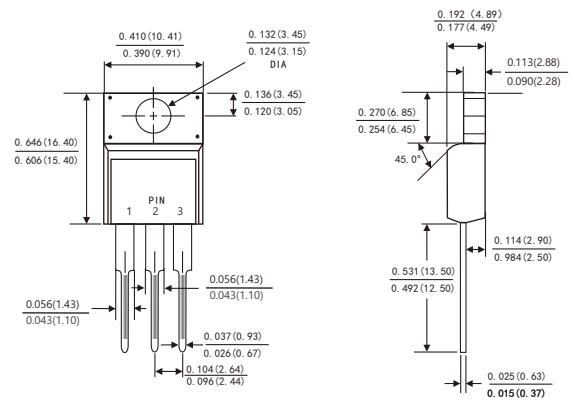


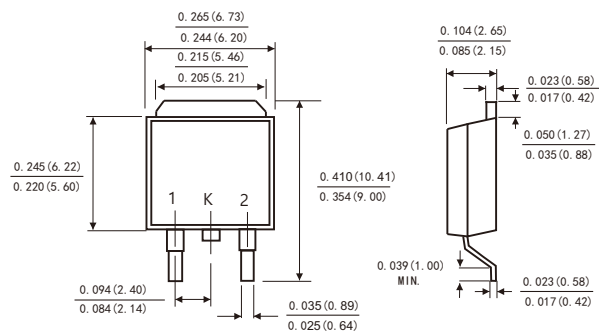
Fig.4 Typical Forward Characteristics



ITO-220AB



TO-252



Suggested Pad Layout

