

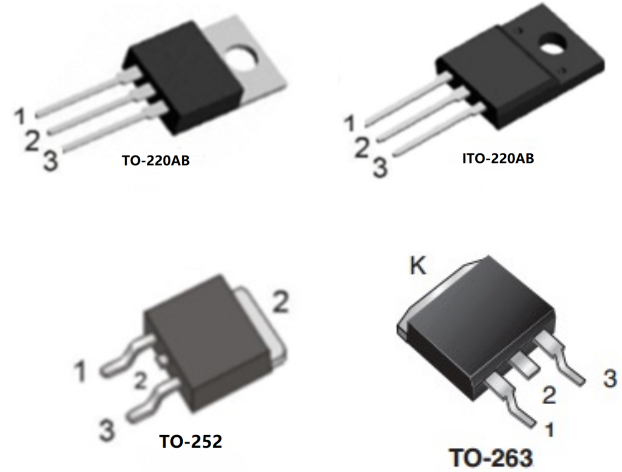
Reverse Voltage: 45Volts
 Forward Current:20.0Amperes

Features

- ◇ Guarding for over voltage protection
- ◇ 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.

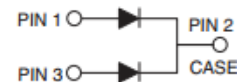
Applications

- ◇ 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 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}	45	V	
Maximum RMS voltage	V_{RWS}	32	V	
Maximum DC blocking voltage	V_{DC}	45	V	
Maximum average forward rectified current	$I_{F(AV)}$	20	A	
per device Per diode		10		
Peak forward surge current 8.3ms half-sine-wave	I_{FSM}	260	A	
I^2t Rating for Fusing($t < 8.3ms$)	I^2t	280	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: $V_R=4.0v, f=1MHz$	C_J	680	pF	
Junction temperature	T_J	150	°C	
Storage temperature range	T_{STG}	-55~150	°C	

ELELTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	SYMBOL	VALUE			UNITS	
			Min	Typ	Max		
Breakdown voltage per diode(min)	IR=0.5mA	VB _R	45	-	-	V	
Instantaneous forward voltage	IF=10A per leg	TA= 25°C	VF	-	0.56	0.60	V
		TA= 125°C	VF	-	0.49	-	V
	IF=5A per leg	TA= 25°C	VF	-	0.46	-	V
		TA= 125°C	VF	-	0.41	-	V
	IF=3A per leg	TA= 25°C	VF	-	0.38	-	V
		TA= 100°C	VF	-	0.42	-	V
TA= 125°C		VF	-	0.34	-	V	
Maximum DC reverse current @Rated DC Blocking Vlotage	TA= 25°C	IR	-	40	100	μ A	
	TA=125°C	IR	-	12	20000	μ A	

ODERING PACK INFORMATION

Part No.	Packge	Pcking	Quatity(pcs/box)	Quatity(pcs/carton)
MBR2045CT	TO-220	50pcs/Tube	1000	5000
MBRF2045CT	ITO-220	50pcs/Tube	1000	5000
MBRD2045CT	TO-252	80pcs/Tube	4000	40000
MBRD2045CT	TO-252	2500pcs/Reel	2500	12500/25000
MBRB2045CT	TO-263	50pcs/Tube	1000	5000/10000
MBRB2045CT	TO-263	800pcs/Reel	800	4000/8000

RATING AND CHARACTERISTICS CURVES

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

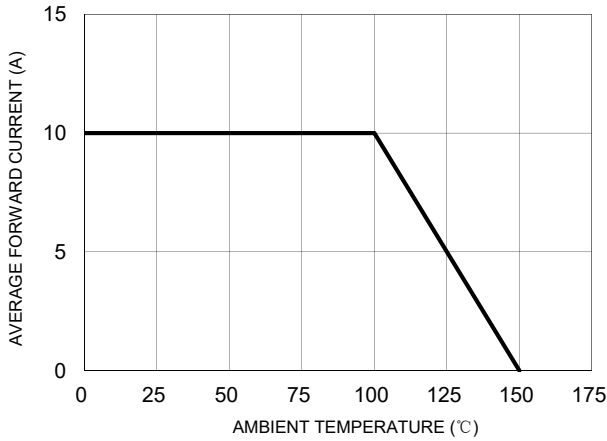


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

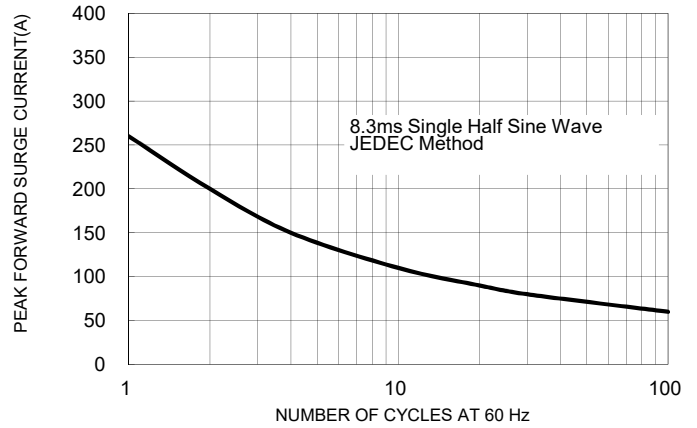


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

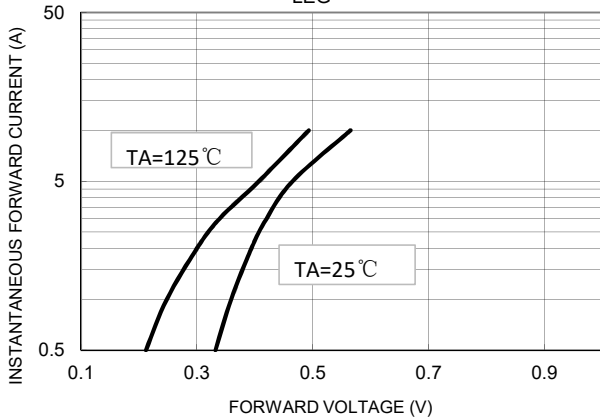
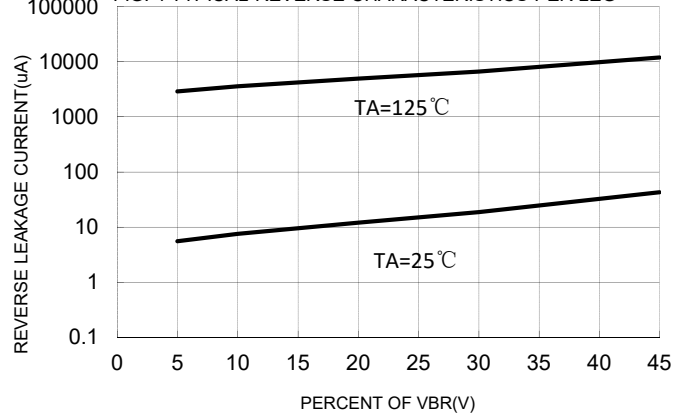
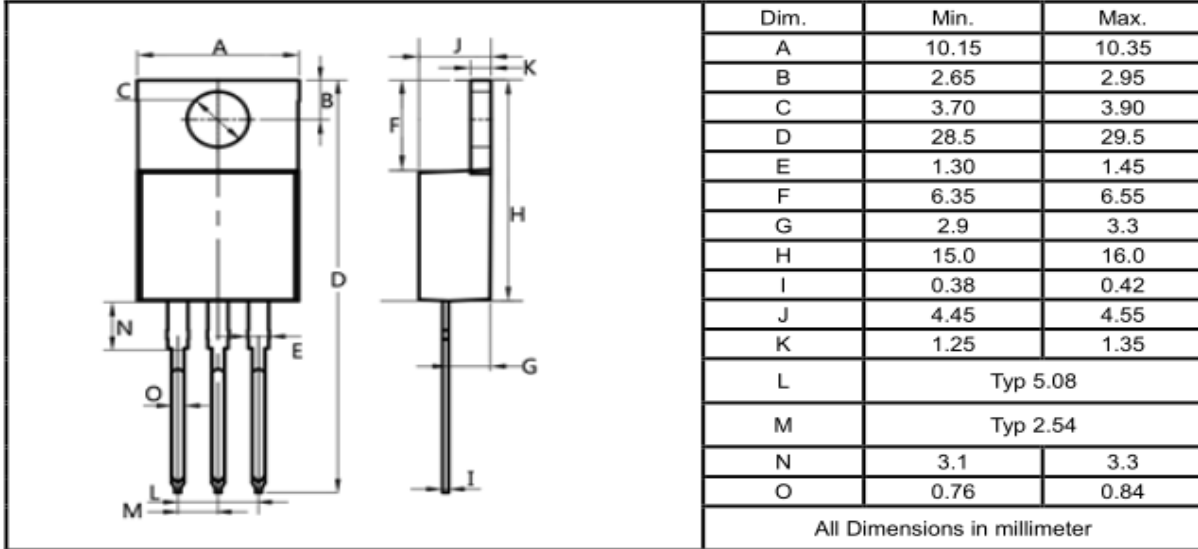


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

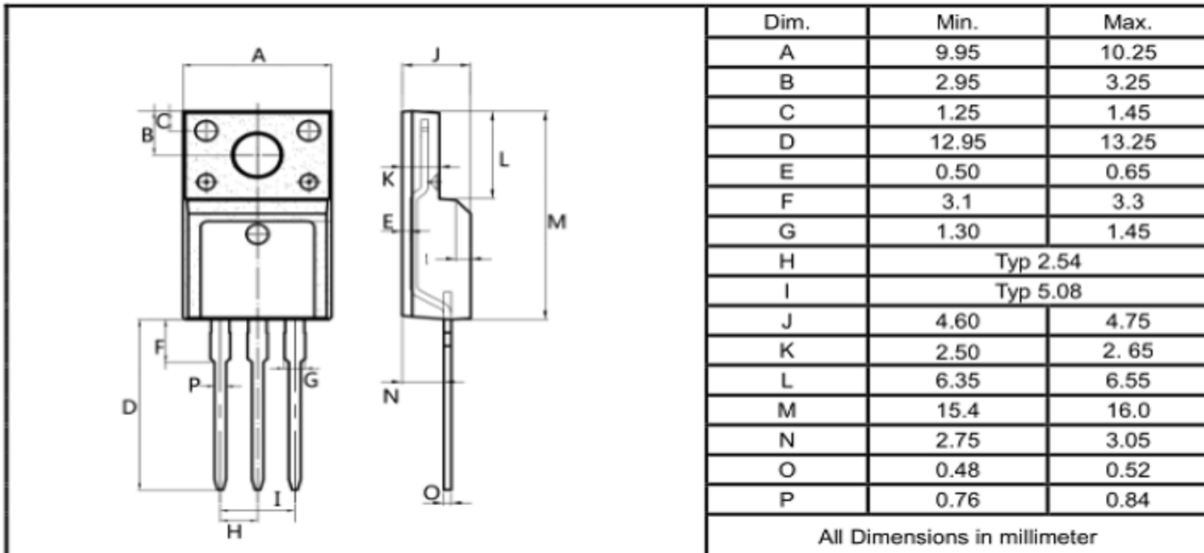


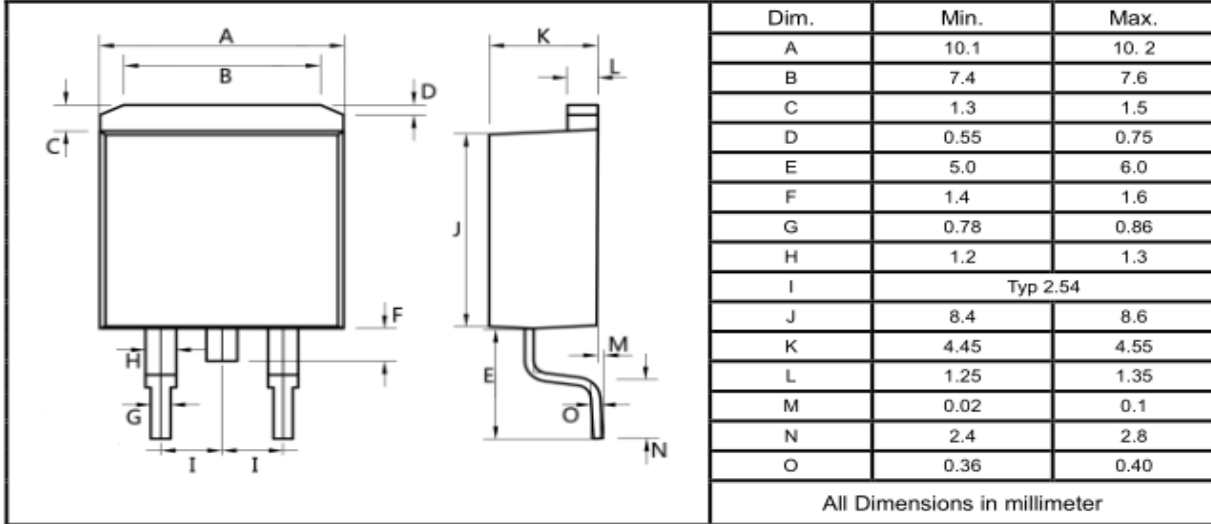
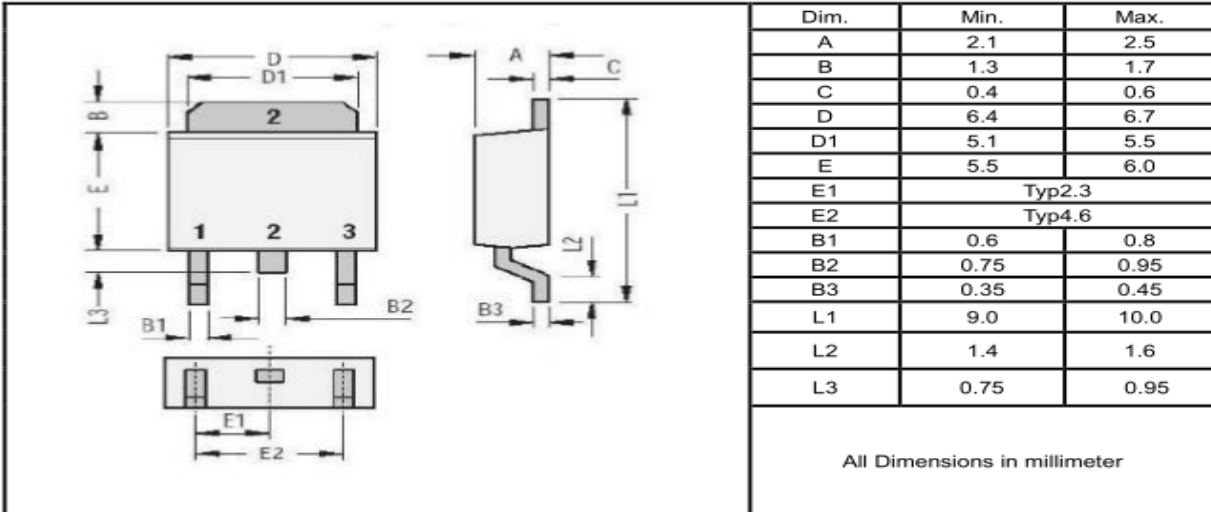
PACKAGE OUTLINE DIMENSIONS

TO-220AB



ITO-220AB



PACKAGE OUTLINE DIMENSIONS
TO-263

TO-252


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