



Features

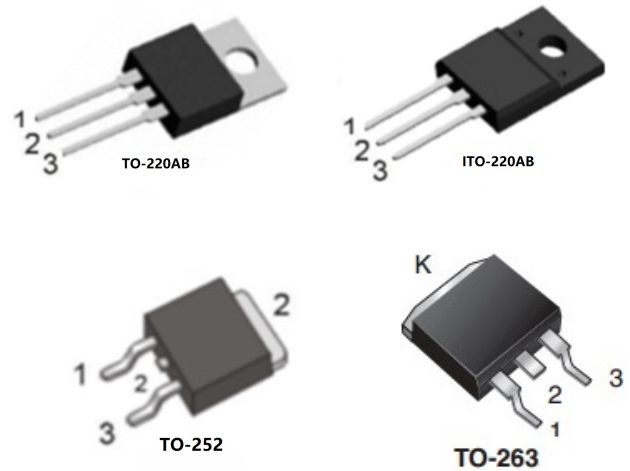
- ◇ Soft,fast switch
- ◇ Low forward voltage drop
- ◇ Low power loss,high efficiency
- ◇ Excellent low reverse leakages
- ◇ High Junction temperature stability
- ◇ High current capability
- ◇ High forward surge capability
- ◇ Lead free finish ,Rohs and WEEE compliant.

Applications

- ◇ Switching diode
- ◇ Switching mode power supply(SMPS)
- ◇ DC/DC converter
- ◇ LED lighting
- ◇ AC-DC Power 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,TO-252



Maximum Rating

Ratings at 25℃ ambient temperature unless otherwise specified.

PARAMETER		SYMBOL	VALUE	UNITS
Maximum repetitive peak reverse voltage		V _{RRM}	300	V
Maximum RMS voltage		V _{RWS}	210	V
Maximum DC blocking voltage		V _{DC}	300	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}	200	A
I ² t Rating for Fusing(t<8.3ms)		I ² t	166	A ² s
Typical Thermal Resistance	TO-220AB	R _{θJA}	63	°C/W
		R _{θJC}	1.1	°C/W
		R _{θJL}	3.4	°C/W
	ITO-220AB	R _{θJC}	1.27	°C/W
		R _{θJA}	63	°C/W
	TO-263	R _{θJC}	2.0	°C/W
	TO-252	R _{θJC}	2.5	°C/W
Typical junction capacitance: VR=4.0v,f=1MHz		C _J	370	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=0.2mA		V _{BR}	300	-	-	V
Instantaneous forward voltage	IF=5.0A	T _J = 25℃	V _F	-	0.84	0.89	V
		T _J = 150℃	V _F	-	0.68	0.75	V
	IF=10A	T _J = 25℃	V _F		0.93	0.97	V
		T _J = 150℃	V _F		0.78	0.85	V
Maximum DC reverse current	T _J = 25℃		I _R	-	-	3	μ A
@Rated DC Blocking Vlotage	T _J =150℃		I _R	-	-	1	mA
Reverse Recovery Time	VR=30V,IF=0.5A,di/dt		T _{rr}	-	26	-	nS
Reverse Recovery Charge	=100A/ μ S,T _J =25℃		Q _{rr}	-	41	-	μ C

ORDERING PACK INFORMATION

Part No.	Packge	Packing	Box Size L×W×H(mm)	Quatity(pcs/box)	Carton Size L×W×H(mm)	Quatity(pcs/carton)
MBR20300CT	TO-220AB	50pcs/Tube	558×148×38	1000	570×290×180	5000
MBRF20300CT	ITO-220AB	50pcs/Tube	558×148×38	1000	570×290×180	5000
MBRB20300CT	TO-263	50pcs/Tube	560×178×38	1000	585×385×220	10000
MBRB20300CT	TO-263	800pcs/Reel	335×335×40	800	370×385×220	4800
MBRD20300CT	TO-252	80pcs/Tube	560×178×38	4000	585×385×220	40000
MBRD20300CT	TO-252	2500pcs/Reel	340×336×29	2500	353×346×365	25000



Ratings And Characteristics Curves

Typical Performance Characteristics (Per Leg)

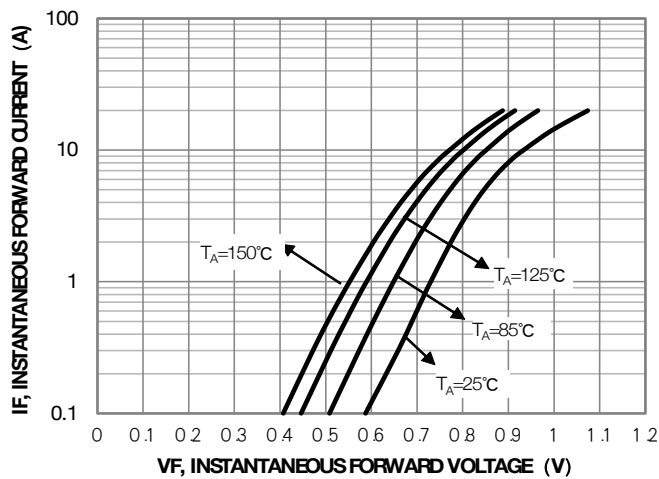


Fig1. Typical Forward Characteristics

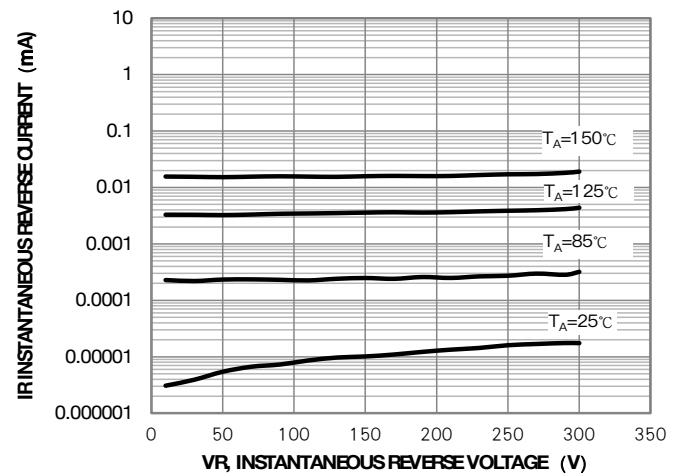


Fig2. Typical Reverse Characteristics

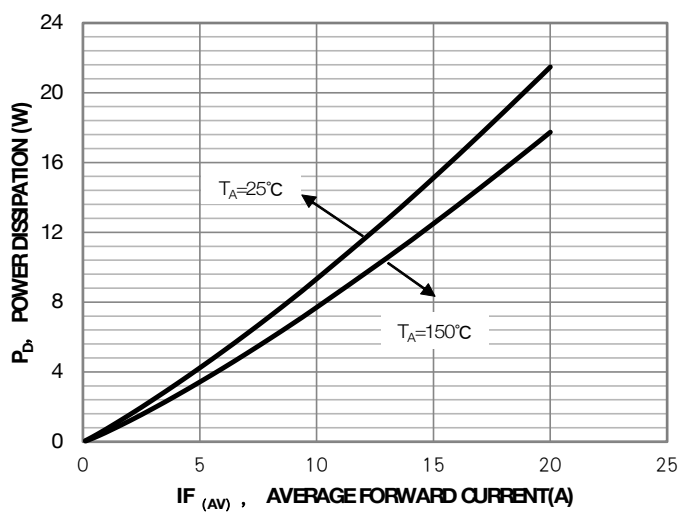


Fig3. Typical Power Dissipation

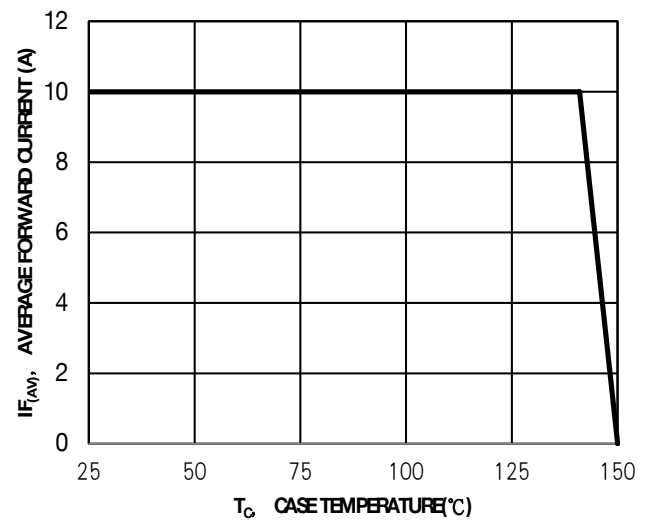
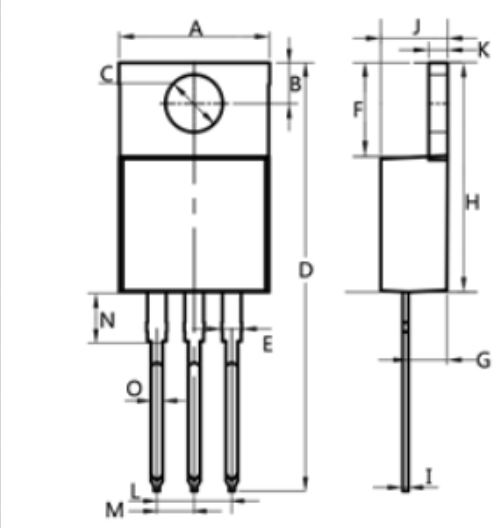


Fig4. Forward Current Derating Curve

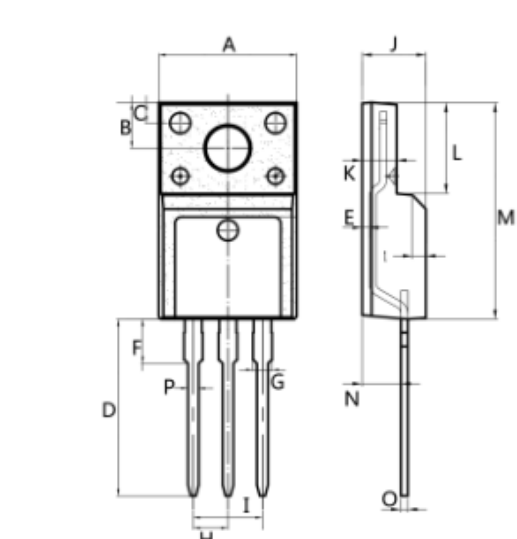
Package Outline Dimensions

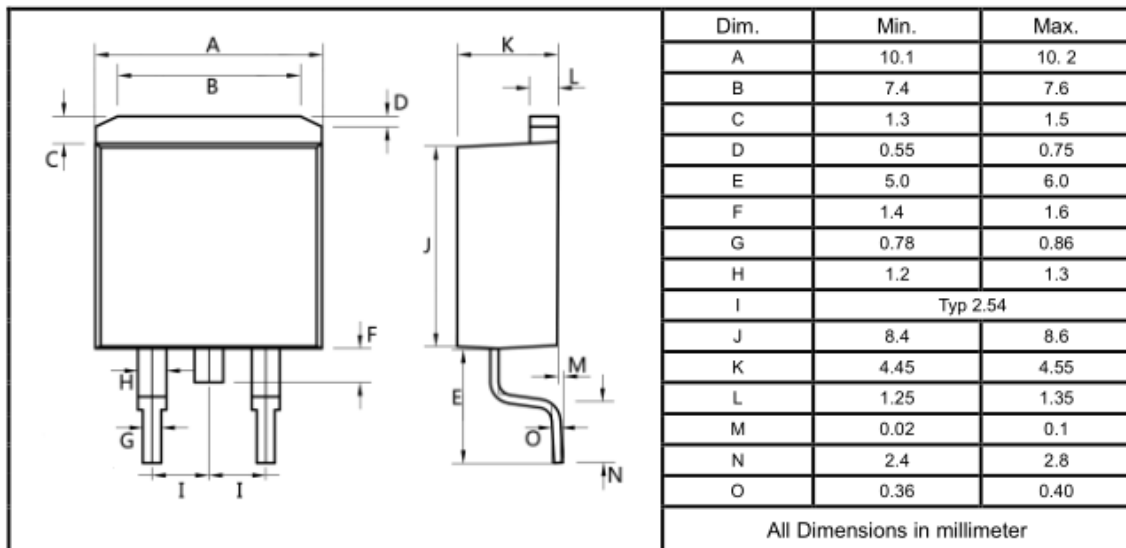


TO-220AB

	Dim.	Min.	Max.
	A	10.15	10.35
	B	2.65	2.95
	C	3.70	3.90
	D	28.5	29.5
	E	1.30	1.45
	F	6.35	6.55
	G	2.9	3.3
	H	15.0	16.0
	I	0.38	0.42
	J	4.45	4.55
	K	1.25	1.35
	L	Typ 5.08	
	M	Typ 2.54	
	N	3.1	3.3
	O	0.76	0.84
All Dimensions in millimeter			

TO-220F

	Dim.	Min.	Max.
	A	9.95	10.25
	B	2.95	3.25
	C	1.25	1.45
	D	12.95	13.25
	E	0.50	0.65
	F	3.1	3.3
	G	1.30	1.45
	H	Typ 2.54	
	I	Typ 5.08	
	J	4.60	4.75
	K	2.50	2.65
	L	6.35	6.55
	M	15.4	16.0
	N	2.75	3.05
	O	0.48	0.52
	P	0.76	0.84
All Dimensions in millimeter			


TO-263

TO-252
