

Feature

- Low Leakage Current at High temperature
- Low Forward Voltage Drop
- High Surge Capacity
- Soft, Fast Switch
- High Junction Temperature Capability

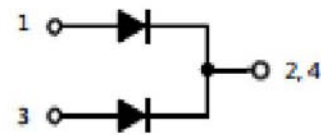
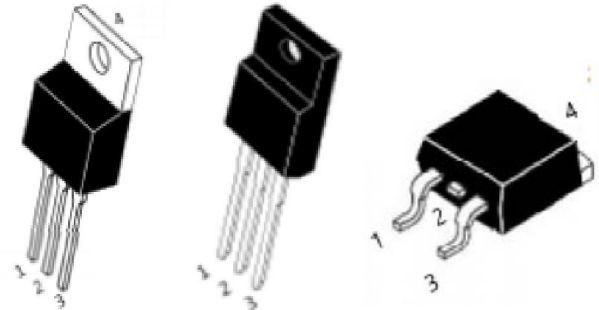
Outline

- Case: TO-220AB ITO-220AB TO-263
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish Annealed Over Copper Lead Frame Solderable per MIL-STD-202, E3 Suffix For Commercial Grade

TO-220AB

ITO-220AB

TO-263



1 – Anode 1

2 – Cathode

3 – Anode 2

4 – Tab Cathode

Maximum Ratings(Per Leg) @T_A=25°C (unless otherwise specified)

Symbol	Item	Ratings	Unit
V _{RRM}	Peak Repetitive Reverse Voltage	300	V
V _{RWM}	Working Peak Reverse Voltage		
V _{RM}	DC Blocking Voltage		
I _{F(AV)}	Average Rectified Forward Current Per Leg (Rate VR) TC=150°C Per Package	2×10	A
I _{FSM}	Non-repetitive Peak Surge Current (8.3ms, half sine wave)	150	A
I _{RRM}	Peak Repetitive Reverse Surge Current (2.0μs, 1.0kHz)	2.5	A
T _J	Operating Junction Temperature Range	-55 to +175	°C
T _{stg}	Storage Temperature	-55 to +175	°C

Thermal Resistance

	Parameter	Typ.	Max.	Unit
R _{th(J-C)}	Junction-to-Case(TO-220AB . TO-263)	-	1.10	°C/W
	Junction-to-Case(ITO-220AB)	-	3.10	

Electrical Characteristics(Per Leg) @ $T_A=25^{\circ}\text{C}$ (unless otherwise specified)

Symbol	Item	Parameter				Test Conditions
		Min.	Typ.	Max.	Units	
V_F	Forward Voltage Drop	-	-	0.86	V	$I_F=5\text{A}, T_J=25^{\circ}\text{C}$
		-	-	0.70		$I_F=5\text{A}, T_J=150^{\circ}\text{C}$
		-	-	1.0		$I_F=10\text{A}, T_J=25^{\circ}\text{C}$
		-	-	0.86		$I_F=10\text{A}, T_J=150^{\circ}\text{C}$
I_R	Leakage Current	-	-	0.1	mA	$V_R=300\text{V}, T_J=25^{\circ}\text{C}$
		-	-	1		$V_R=300\text{V}, T_J=150^{\circ}\text{C}$
		-	-	8		$V_R=300\text{V}, T_J=175^{\circ}\text{C}$
Q_{rr}	Reverse Recovery Charge	-	41	-	μC	$V_R=30\text{V}, I_F=1\text{A}, di/dt=100\text{A}/\mu\text{S}, T_J=25^{\circ}\text{C}$

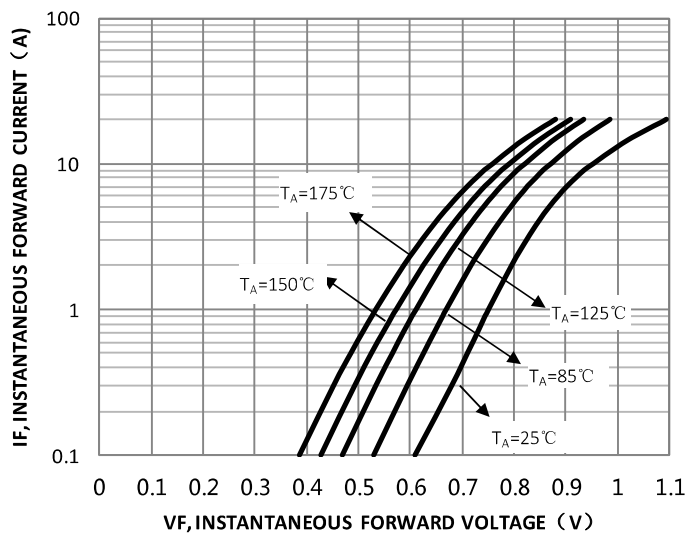


Fig1. Typical Forward Characteristics

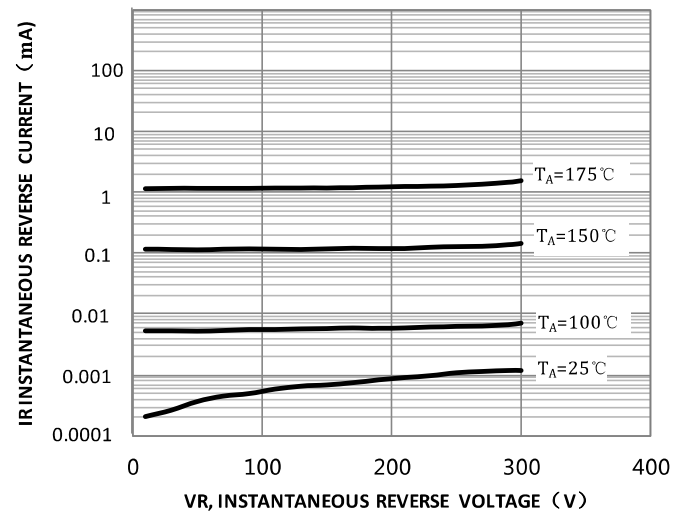


Fig2. Typical Reverse Characteristics

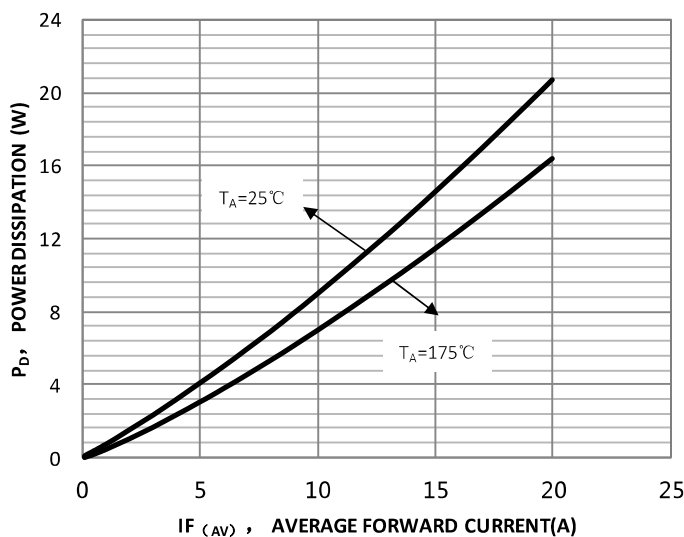


Fig3. Typical Power Dissipation

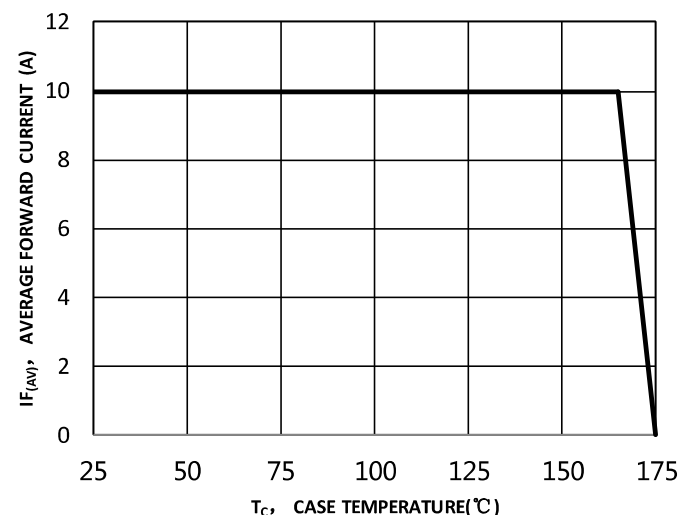
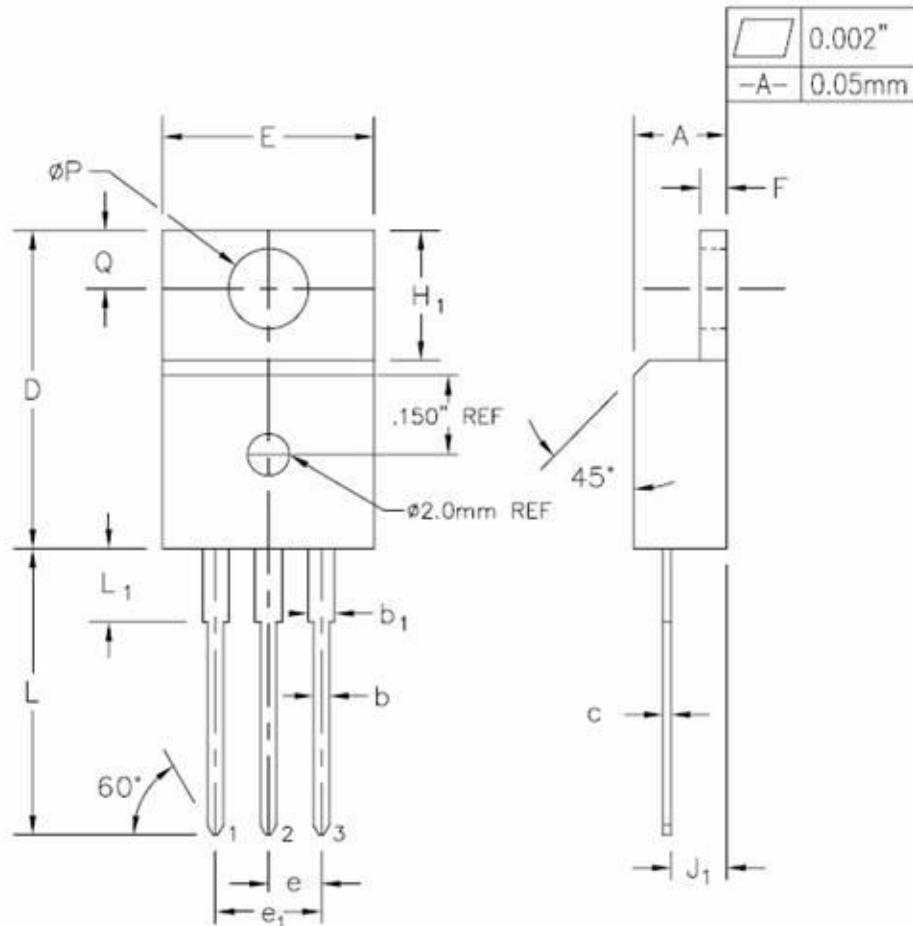


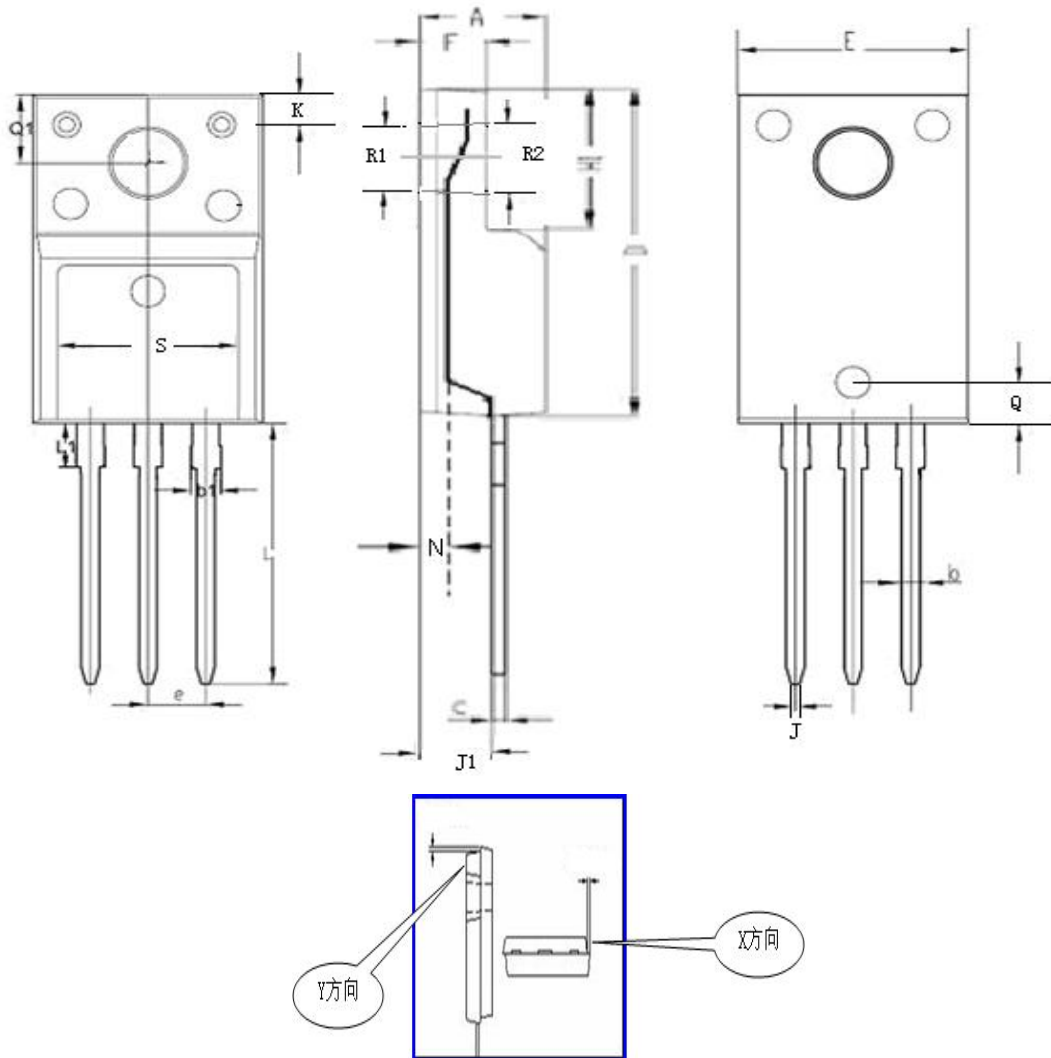
Fig4. Forward Current Derating Curve

Package Outline

TO-220AB

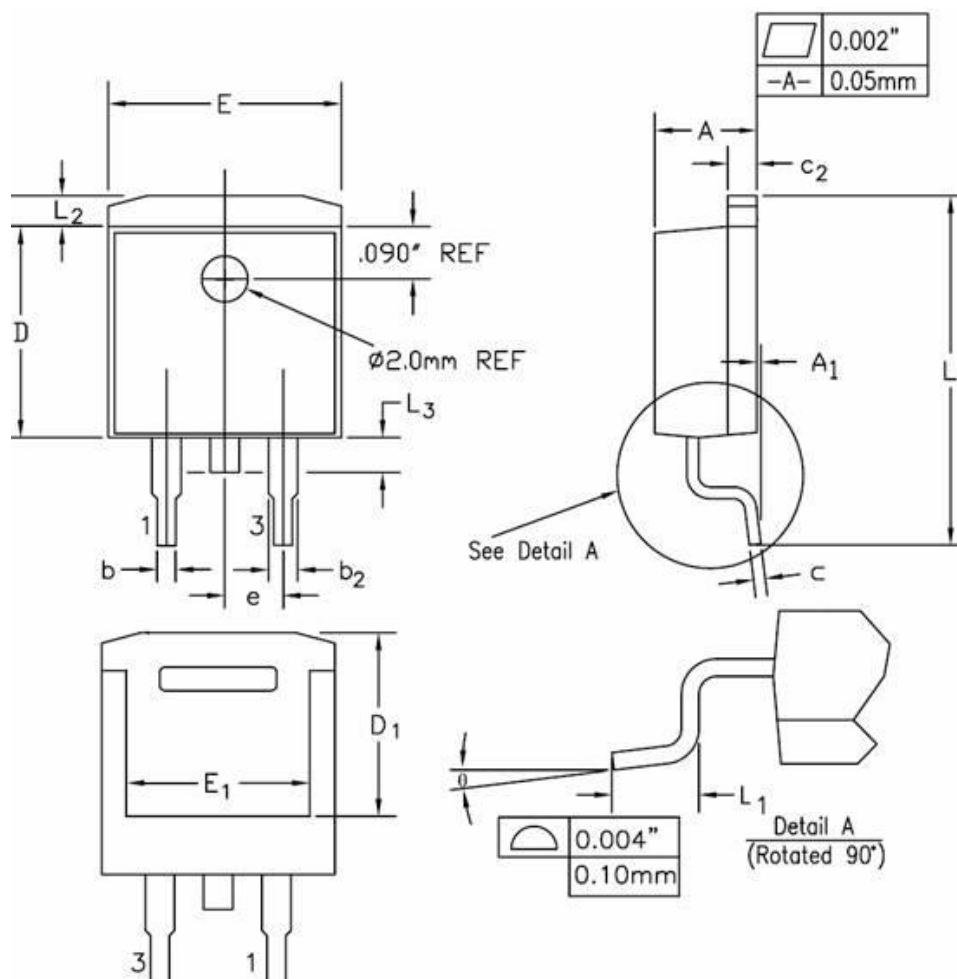


SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN	MAX	MIN	MAX	
A	0.170	0.180	4.32	4.57	
b ₁	0.048	0.055	1.22	1.40	
b	0.028	0.036	0.71	0.91	
c	0.014	0.021	0.36	0.53	
D	0.590	0.610	14.99	15.49	
E	0.395	0.410	10.04	10.41	
e	0.100 BSC.		2.54 BSC.		
e ₁	0.200 BSC.		5.08 BSC.		
F	0.048	0.054	1.22	1.37	
H ₁	0.235	0.255	5.97	6.47	
J ₁	0.100	0.110	2.54	2.79	
L	0.530	0.550	13.47	13.97	



SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN	MAX	MIN	MAX	
A	0.178	0.194	4.53	4.93	
b	0.028	0.036	0.71	0.91	
C	0.018	0.024	0.45	0.6	
D	0.617	0.633	15.67	16.07	
E	0.392	0.408	9.96	10.36	
e	0.100 TYP.		2.54TYP.		
H1	0.256	0.272	6.5	6.9	
J1	0.101	0.117	2.56	2.96	
L	0.503	0.519	12.78	13.18	
φQ	0.117	0.133	2.98	3.38	
b1	0.045	0.055	1.15	1.39	
L1	0.114	0.13	2.9	3.3	

Package Outline TO-263



SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN	MAX	MIN	MAX	
A	0.170	0.180	4.32	4.57	
A1	-	0.010	-	0.25	
b	0.028	0.037	0.71	0.94	
b2	0.045	0.055	1.15	1.40	
c	0.018	0.024	0.46	0.61	
c2	0.048	0.055	1.22	1.40	
D	0.350	0.370	8.89	9.40	
D1	0.315	0.324	8.01	8.23	
E	0.395	0.405	10.04	10.28	
E1	0.310	0.318	7.88	8.08	
e	0.100 BSC.		2.54 BSC.		
L	0.580	0.620	14.73	15.75	
L1	0.090	0.110	2.29	2.79	
L2	0.045	0.055	1.15	1.39	
L3	0.050	0.070	1.27	1.77	
θ	0°	8°	0°	8°	

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