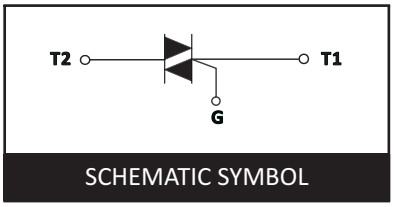
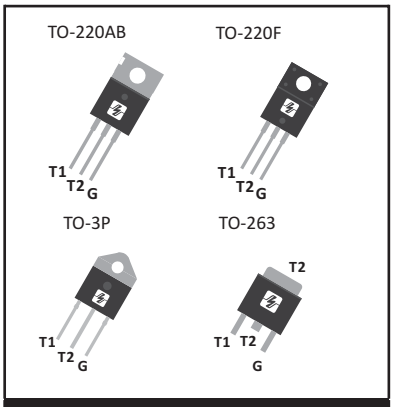
25A SERIES
BI-DIRECTIONAL TRIODE THYRISTOR



SCHEMATIC SYMBOL



PACKAGE

DESCRIPTION

General purpose switching and phase control applications .These devices are intended to be interfaced directly to microcontrollers , logic integrated circuits and other low power gate trigger circuits such as fan speed and temperature modulation control , lighting control and static switching relay.

FEATURES

- Repetitive Peak off-State Voltage: 600V/800V
- R.M.S On-State Current($I_{T(RMS)}$=25A)
- Low on-state voltage: V_{TM}=1.55(Max.)@ I_{TM}
- Low reverse and forward blocking current:
- High Commutation dV/dt.

ABSOLUTE MAXIMUM RATINGS (T_J = 25°C UNLESS OTHERWISE SPECIFIED)

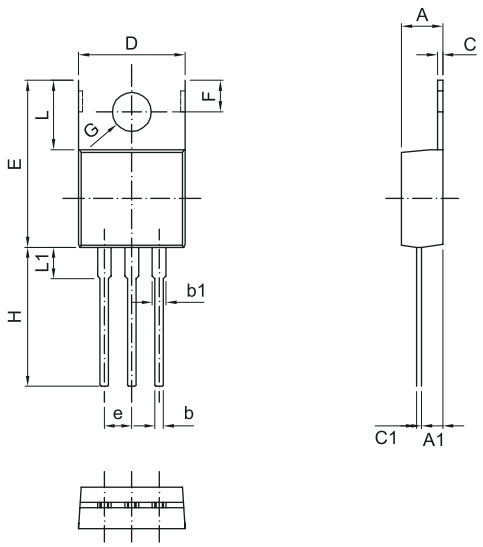
Symbol	Parameter	Condition	Ratings	Units
V_{DRM}	Repetitive Peak Off-State Voltage		600/800	V
V_{RRM}	Repetitive Peak Reverse Voltage		600/800	V
$I_{T(RMS)}$	R.M.S On-State Current	All Conduction Angle	25	A
I_{TSM}	Surge On-State Current	F=50Hz, tp=20ms	250	A
I^2t	I^2t for Fusing	tp=10ms	340	A^2S
dI/dt	Repetitive rate of rise of on-state current after triggering	I_G=2I_{GT} F=100Hz tr≤100nS	50	A/uS
P_{GM}	Forward Peak Gate Power Dissipation		5.0	W
$P_{G(AV)}$	Forward Average Gate Power Dissipation		1.0	W
I_{GM}	Peak Gate Current		4.0	A
T_J	Operating Junction Temperature		-40~125	°C
T_{STG}	Storage Temperature		-40~150	°C

ELECTRICAL CHARACTERISTICS (TC = 25 °C UNLESS OTHERWISE NOTED)

Symbol	Items	Conditions		Ratings		Unit
				CW	BW	
I_{DRM}	Repetitive Peak Off-State Current	$V_D = V_{DRM}$	T_C = 25 °C	≤5		uA
			T_C = 125 °C	≤3000		
V_{TM}	Peak On-State Voltage	I_{TM} = 35A		≤1.55		V
I_{GT}	Gate Trigger Current	V_D = 12V	Ⅰ Ⅱ Ⅲ	≤50	≤50	mA
			Ⅳ	-	≤100	
V_{GT}	Gate Trigger Voltage	V_D=12V		≤1.3		V
V_{GD}	Non-Trigger Gate Voltage	V_D =2/3V_{DRM}, T_J = 125°C		≥0.2		V
dv/dt	Critical Rate of Rise Off-State Voltage	$_{DRM}$, V_D = 2/3V T_J = 125°C		≥200	≥1000	V/uS
I_H	Holding Current	I_T =0.1A		≤50	≤75	mA
I_L	Latching current	I_G=1.2I_{GT}	Ⅰ Ⅲ	≤70	≤80	mA
			Ⅱ	≤80	≤100	
			Ⅳ	-	-	

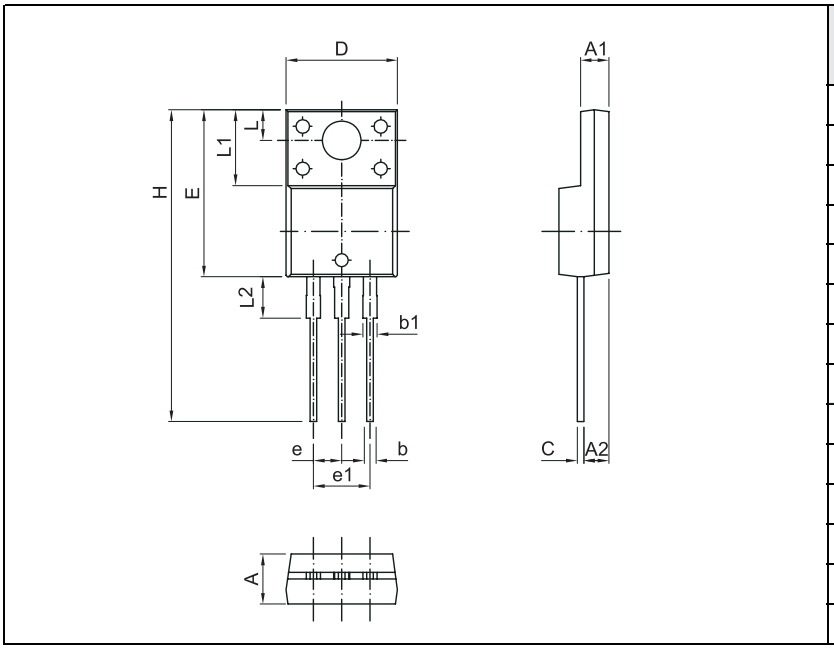
PACKAGE MECHANICAL DATA

TO-220AB



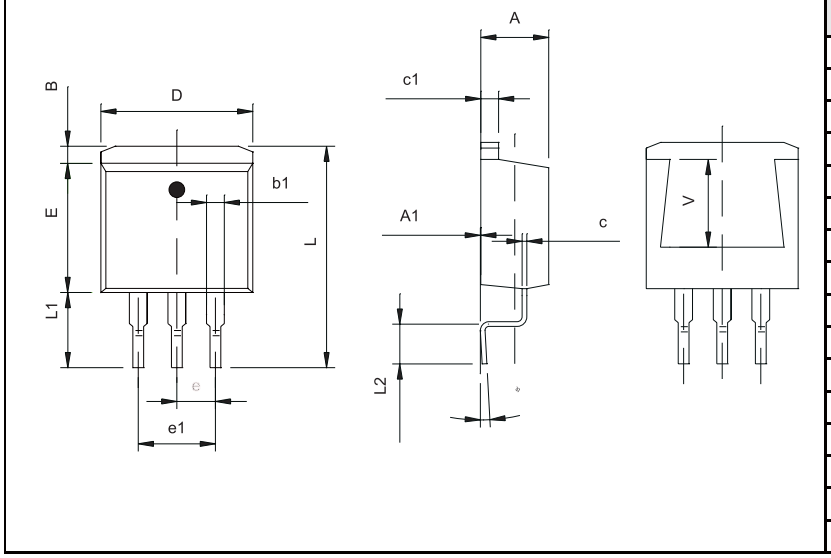
Symbol	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.56	4.83	0.140	0.190
A1	2.03	2.92	0.080	0.115
b	0.38	1.02	0.015	0.040
b1	1.14	1.78	0.045	0.070
C	0.51	1.40	0.020	0.055
C1	0.36	0.61	0.014	0.024
D	9.65	10.67	0.380	0.420
E	14.22	16.51	0.560	0.650
e	2.54BSC		0.10BSC	
F	2.54	3.05	0.100	0.120
G	3.53	3.90	0.139	0.154
H	12.70	14.73	0.500	0.580
L	5.84	6.86	0.230	0.270
L1	-	6.35	-	0.250

TO-220F



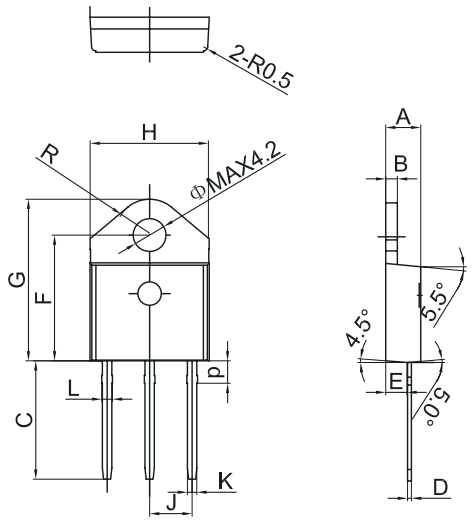
Symbol	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.40	4.60	0.173	0.181
A1	2.60	2.80	0.102	0.110
A2	2.45	2.55	0.096	0.100
b	0.50	0.75	0.020	0.030
b1	1.10	1.40	0.043	0.055
C	0.50	0.70	0.020	0.028
D	9.70	10.30	0.382	0.406
E	14.70	15.30	0.579	0.602
e	2.54TYP		0.10TYP	
e1	4.88	5.28	0.192	0.208
H	27.40	28.60	1.079	1.126
L	2.50	3.00	0.098	0.118
L1	6.70	6.90	0.264	0.272
L2	3.60	3.80	0.142	0.150

TO-263



Symbol	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.47	4.67	0.176	0.184
A1	0	0.15	0	0.006
B	1.12	1.42	0.044	0.056
b	0.71	0.91	0.028	0.036
b1	1.17	1.37	0.046	0.054
c	0.31	0.53	0.012	0.021
c1	1.17	1.37	0.046	0.054
D	10.01	10.31	0.394	0.406
E	8.5	8.9	0.335	0.350
e	2.54Typ		0.10Typ	
e1	4.98	5.18	0.196	0.204
L	14.94	15.5	0.588	0.610
L1	4.95	5.45	0.195	0.215
L2	2.34	2.74	0.092	0.108
F	0^O	8^O	0^O	8^O
V	5.60Ref.		0.22 Ref.	

TO-3P



Symbol	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.40	4.60	0.173	0.181
B	1.45	1.55	0.057	0.061
C	14.35	15.60	0.565	0.614
D	0.50	0.75	0.020	0.028
E	2.70	2.90	0.106	0.114
F	15.80	16.50	0.622	0.650
G	20.40	21.10	0.815	0.831
H	15.10	15.50	0.594	0.610
J	5.40	5.65	0.213	0.222
K	1.20	1.40	0.047	0.055
L	1.35	1.50	0.053	0.059
P	2.80	3.00	0.110	0.118
R	4.60TYP		0.181TYP	

CONTACT US

Headquarters
A Building Caohejing I&E Park
Pujiang Minhang Shanghai
China

Web
http://www.semiwill.com

By Telephone
General: 86-21-34637654
Sales: 86-21-34637458
Customer Service: 86-21-34637172

By Email
Sales: sales@semiwill.com
Customer Service: cs@semiwill.com
Technical Support: fae@semiwill.com

By Fax
General: 86-21-34637173
Sales:86-21-39650654