

## CDR05 Thyristor Series

TO-126  
TO-202-3  
TO-220

Absolute maximum ratings

Parameter	Symbol	Value	Unit	Test condition
peak repetitive off-state voltage	$V_{DRM}, V_{RRM}$	>600	V	
on-state RMS current	$I_T(RMS)$	4	A	TL=60 °C
average on-state current	$I_T(AV)$	2.5	A	TL=60 °C
NON repetitive surge peak on-state current	$I_{TSM}$	30	A	$T_p=10ms, T_j=25\text{ °C}$
critical rate of rise on-state current	$di/dt$	50	A/ $\mu s$	F=60HZ
peak gate current	$I_{GM}$	1.2	A	$t_p=20\text{ }\mu s$
average gate power dissipation	$P_G(AV)$	0.2	W	
storage temperature range	$T_{stg}$	-40 to +150	°C	
operating junction temperature range	$T_j$	125	°C	

Electrical characteristics (  $T_j=25^\circ C$ ) unless otherwise specified

Parameter	Symbol	Value	Unit	Test condition
gate trigger current	$I_{GT}$	10-200	$\mu A$	$V_D=12V, R_L=140\Omega$
gate trigger voltage	$V_{GT}$	$\leq 0.8$	V	$V_D=12V, R_L=140\Omega$
hold current	$I_H$	$\leq 3$	mA	$I_T=50mA, RGK=1K\Omega$
critical rate of rise off-state voltage	$dv/dt$	$\geq 10$	V/ $\mu s$	$V_D=67\%V_{DRM}, R_{GK}=1K\Omega$
on-state voltage	$V_{TM}$	$\leq 2.2$	V	$I_{TM}=8A, t_p=380\mu s$
off-state leakage current	$I_{DRM}, I_{RRM}$	$\leq 10$	$\mu A$	$V_D=V_{DRM}; V_R=V_{RRM}; RGK=1K\Omega, T_j=125^\circ C$
thermal resistance	$R_{th(j-a)}$	$\leq 10$	°C/W	
	$R_{th(j-mb)}$	$\leq 75$		

### Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damage resulting from such sale(s).

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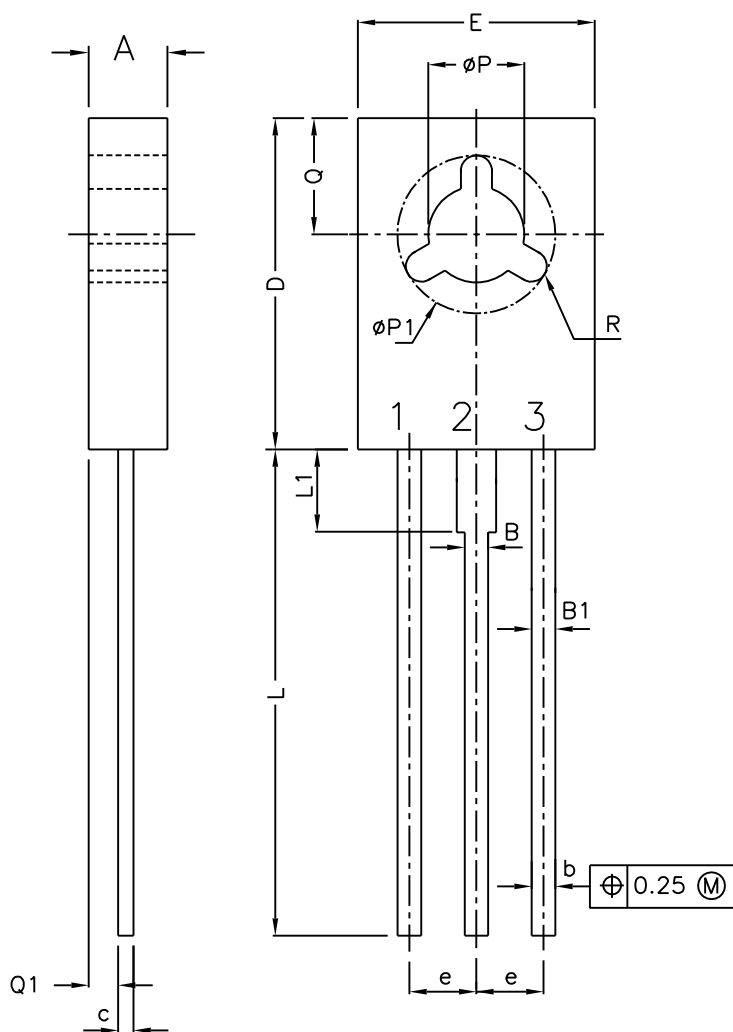
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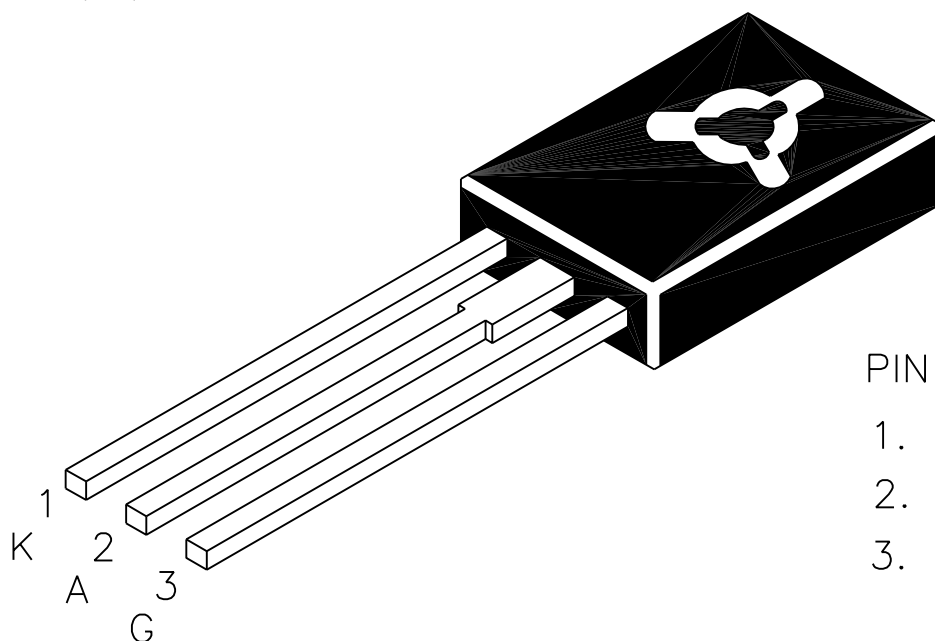
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# PACKAGE TO-126



DIM	MIN.	NOM.	MAX.
A	2.3		2.8
B	1.0		1.2
B1	0.8		1.0
b	0.65		0.88
c	0.45		0.60
D	10.5		11.1
E	7.2		7.8
e		2.29	
L	15.3		16.5
L1			2.54
ØP	3.0		3.2
ØP1		5.0	
Q	3.6		4.4
Q1	0.9		1.5
R		0.5	

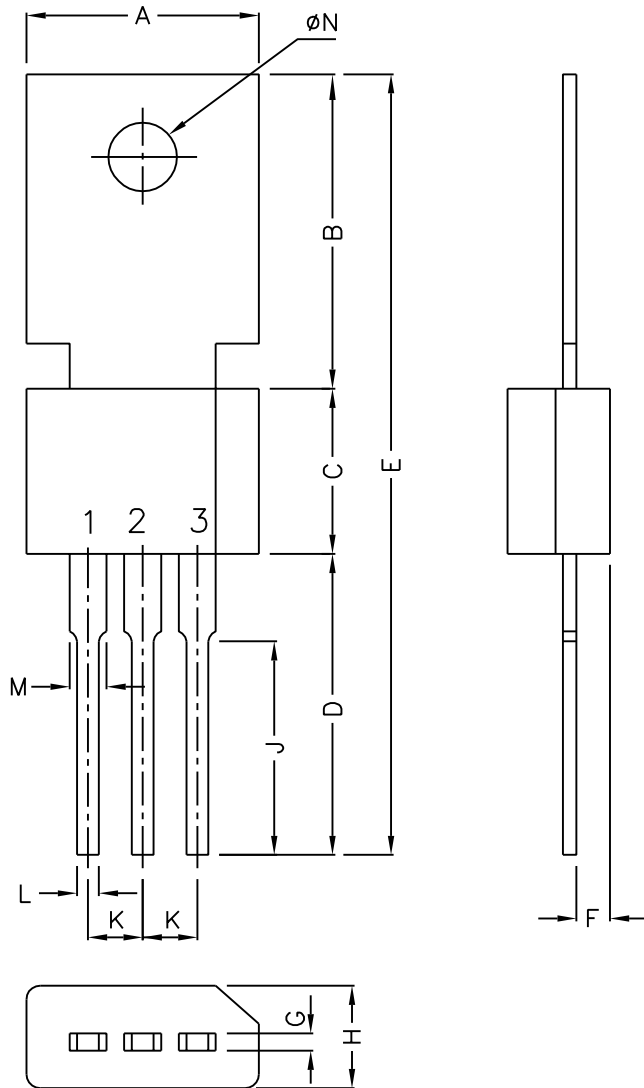
ALL DIMENSIONS ARE IN mm



PIN CONFIGURATION:—

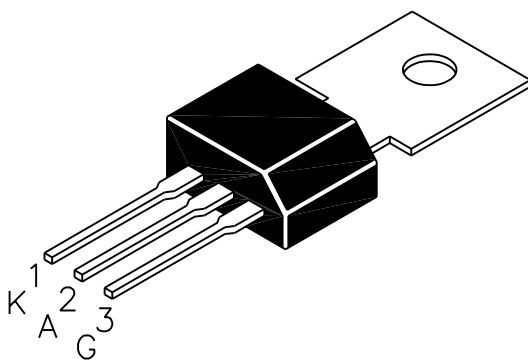
1. CATHODE
2. ANODE
3. GATE

# PACKAGE TO-202



DIM	MIN	TYP.	MAX
A			10.00
B			13.00
C		7.70	
D			12.50
E			33.30
F		1.55	
G		0.50	
H			4.70
J		9.50	
K		2.55	
L		0.85	
M		1.30	
N		3.20	

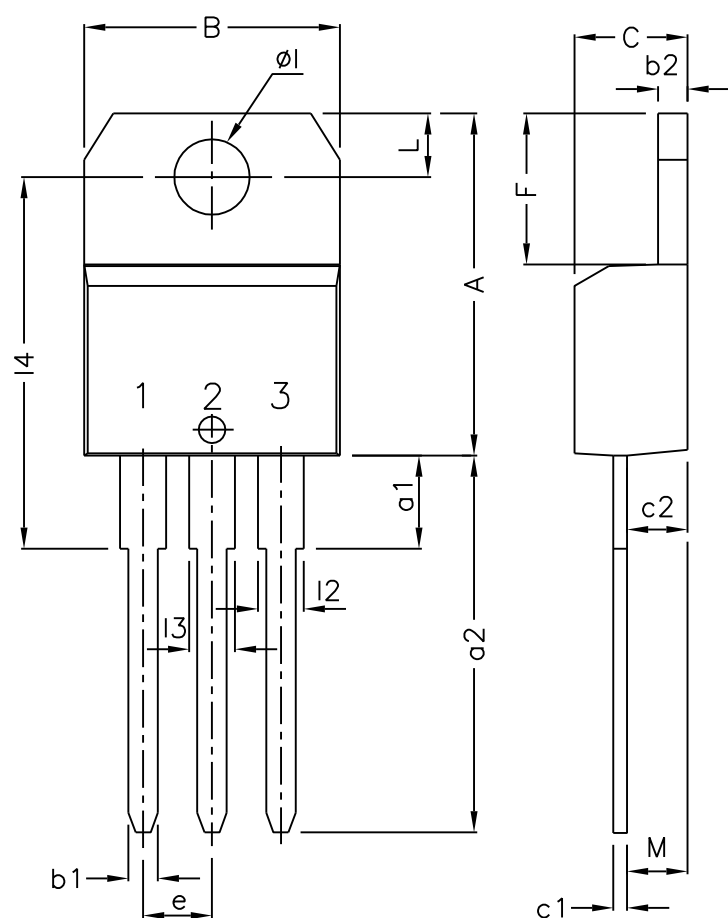
ALL DIMENSIONS ARE IN mm



PIN CONFIGURATION:—

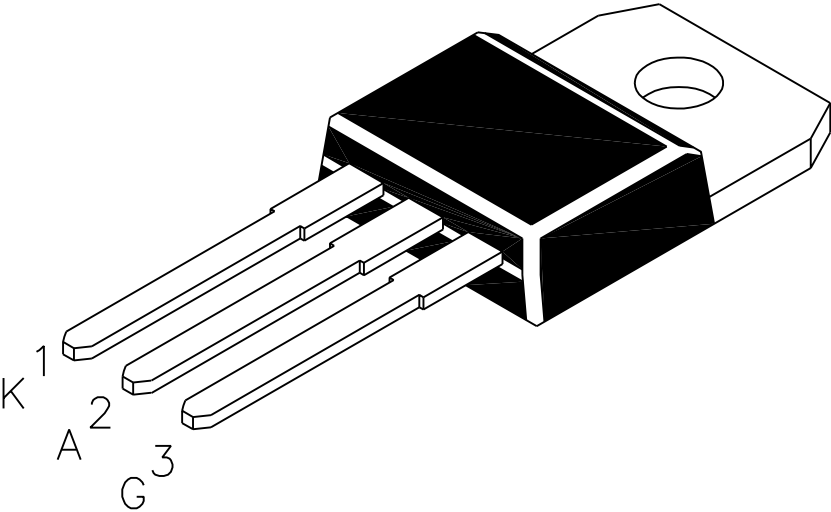
1. CATHODE
2. ANODE
3. GATE

# PACKAGE TO-220 AB



DIM	MIN	TYP.	MAX
A	15.20		15.90
a1		3.75	
a2	13.00		14.00
B	10.00		10.40
b1	0.61		0.88
b2	1.23		1.32
C	4.40		4.60
c1	0.49		0.70
c2	2.40		2.72
e	2.40		2.70
F	6.20		6.60
I	3.75		3.85
l4	15.80	16.40	16.80
L	2.65		2.95
l2	1.14		1.70
l3	1.14		1.70
M		2.60	

ALL DIMENSIONS ARE IN mm



PIN CONFIGURATION:—  
1. CATHODE  
2. ANODE  
3. GATE