

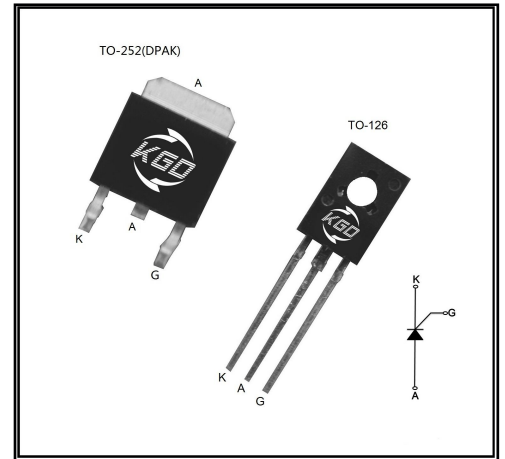
● **Description:**

Highly sensitive triggering levels, the C106D Series SCRs is suitable for all applications, where the available gate current is limited, such as capacitive discharge ignitions, motor control in kitchen aids, overvoltage crowbar protection in low power supplies...

● **Features:**

- Blocking voltage to 600V
- On-state RMS current to 4A
- Non-repetitive peak on-state current to 30A

● **Absolute Maximum Ratings**



Symbol	Parameter	Conditions	Value	Unit
V_{DRM}	Repetitive peak off-state voltage	$T_J=25^{\circ}C$	600	V
V_{RRM}	Repetitive peak Reverse voltage	$T_J=25^{\circ}C$	600	V
$I_{T(RMS)}$	RMS on-state current (180° conduction half sine wave)	$T_c=77^{\circ}C$	4	A
$I_{T(av)}$	Average on-state current (180° conduction half sine wave)	$T_c=77^{\circ}C$	2.5	A
I_{TSM}	Non-repetitive surge peak On-state current($T_J=25^{\circ}C$)	$tp=10ms$	30	A
		$tp=8.3ms$	33	
I^2t	I^2t Value for fusing	$tp=10ms$	4.5	A^2S
I_{GM}	Peak gate current	$tp=20\mu s, T_J=110^{\circ}C$	1.2	A
$P_{G(AV)}$	Average gate power dissipation		0.2	W
T_{STG}	Storage temperature		-40 150	$^{\circ}C$
T_J	Junction temperature		-40 110	$^{\circ}C$

● Electrical Characteristics

Symbol	Conditions	Value			Unit
		MIN	TYP	MAX	
I_{GT}	$V_D=6V, R_L=100\Omega$	/	40	200	μA
V_{GT}		/	0.6	0.8	V
V_{GD}	$V_D=V_{DRM}, R_L=3.3K\Omega, R_{GK}=1K\Omega, T_J=110^\circ C$	0.2	/	/	V
I_L	$I_G=1mA, R_{GK}=1K\Omega$	/	/	6	mA
I_H	$I_T=50mA, R_{GK}=1K\Omega$	/	/	5	mA
dv/dt	$V_{DM}=67\%V_{DRM}, R_{GK}=1K\Omega, T_J=110^\circ C$	10	/	/	$V/\mu s$

● Electrical Characteristics

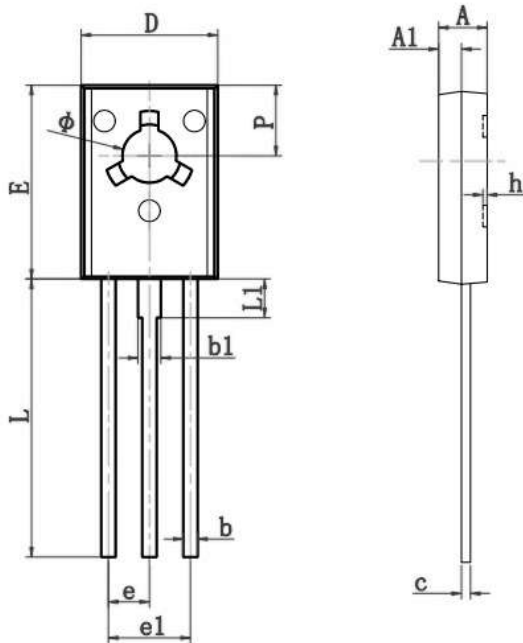
Symbol	Parameter	Numerical	Unit
V_{TM}	$I_T=1A, t_p=380\mu s$ $T_J=25^\circ C$	1.8	V
I_{DRM}	$V_D=V_{DRM}, V_R=V_{RRM}$ $T_J=25^\circ C$	5	μA
I_{RRM}	$T_J=125^\circ C$	0.1	mA

● Thermal Characteristics

Symbol	Parameter	Numerical(MAX)	Unit
$R_{th(j-c)}$	Junction to case(AC)	3.7	$^\circ C/W$
$R_{th(j-a)}$	Junction to ambient(AC)	55	$^\circ C/W$
T_L	Lead Solder Temperature(<1/16" from case, 10 secs max)	260	$^\circ C$

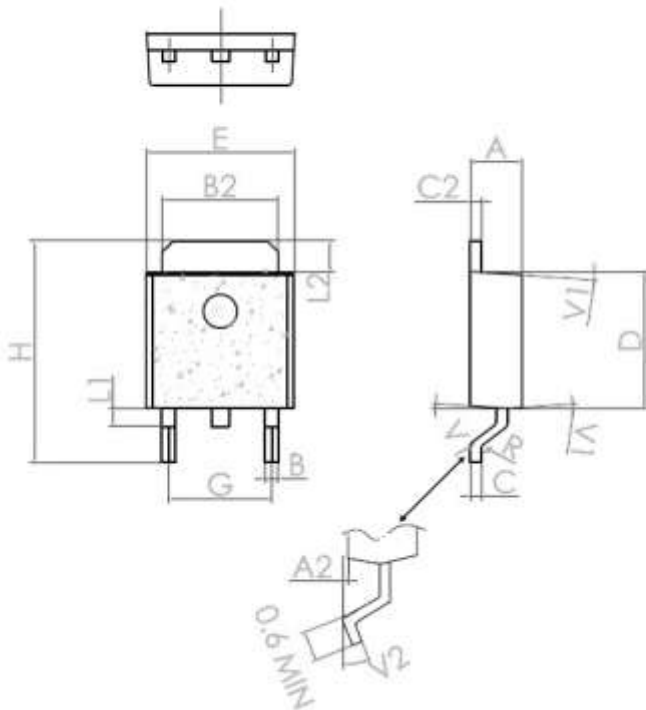
● Package Outline Dimensions

TO-126



Ref.	Dimensions			
	Millimeters		Millimeters	
	Min	Max	Min	Max
A	2.500	2.900	0.098	0.114
A1	1.100	1.500	0.043	0.059
b	0.660	0.860	0.026	0.034
b1	1.170	1.370	0.046	0.054
c	0.450	0.600	0.018	0.024
D	7.400	7.800	0.291	0.307
E	10.600	11.000	0.417	0.433
e	2.290 TYP		0.090 TYP	
e1	4.480	4.680	0.176	0.184
h	0.000	0.300	0.000	0.012
L	15.300	15.700	0.602	0.618
L1	2.100	2.300	0.083	0.091
P	3.900	4.100	0.154	0.161
φ	3.000	3.200	0.118	0.126

TO-252 / DPAK



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.2		2.4	0.086		0.095
A2	0.03		0.23	0.001		0.009
B	0.55		0.65	0.021		0.026
B2	5.2		5.4	0.204		0.212
C	0.45		0.62	0.017		0.024
C2	0.48		0.62	0.019		0.024
D	6		6.2	0.236		0.244
E	6.4		6.6	0.251		0.259
G	4.40		4.60	0.173		0.181
H	9.35		10.1	0.368		0.397
L1		0.8			0.031	
L2	1.37		1.5	0.054		0.059
V1		4°			4°	
V2	0°		8°	0°		8°

FIG.1: Maximum power dissipation versus RMS on-state current(full cycle)

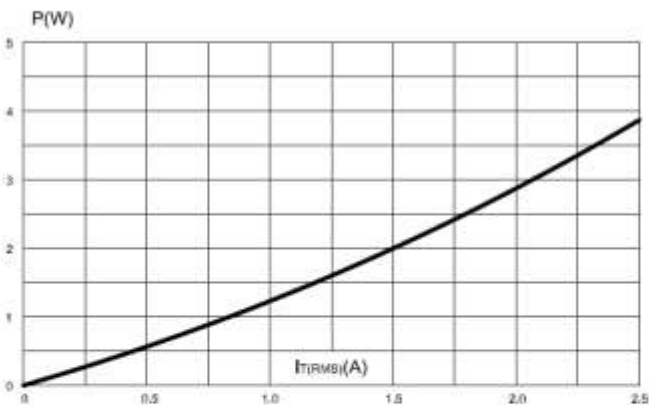


FIG.2: Average on-state current versus case temperature(full cycle)

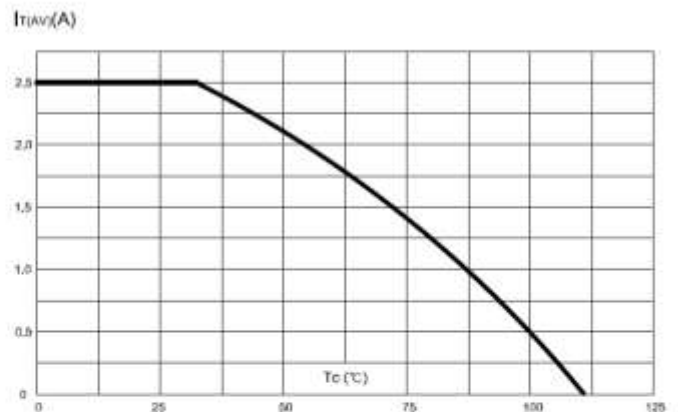


FIG.3: On-state characteristics (maximum values)

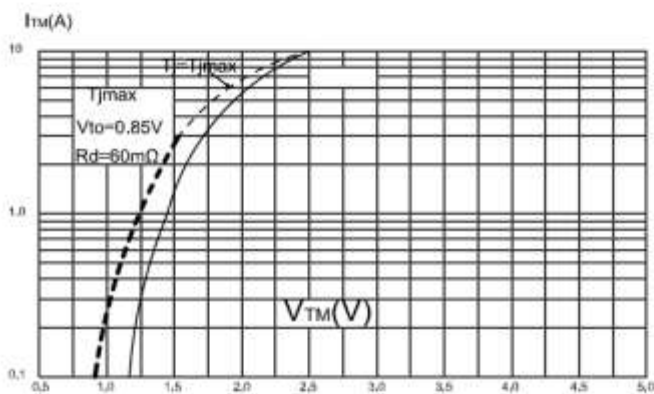


FIG.4: Surge peak on-state current versus number of cycles.

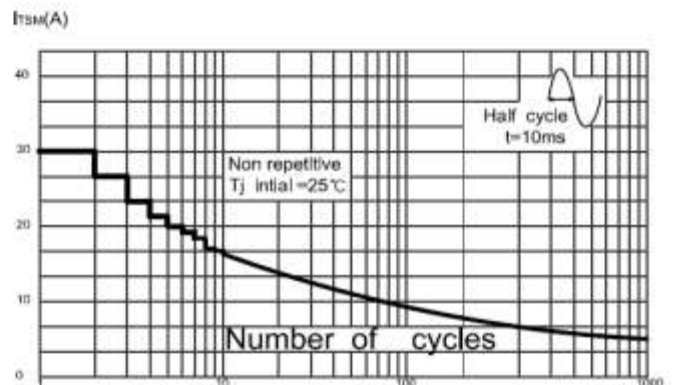


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10ms$.

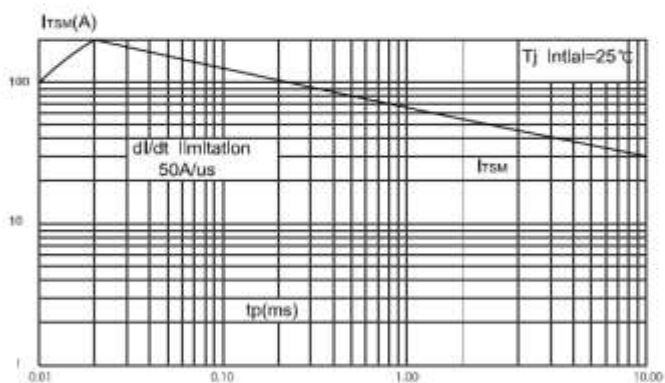


FIG.6: Relative variation of gate trigger current, holding current and latching current versus junction temperature(typical values).

