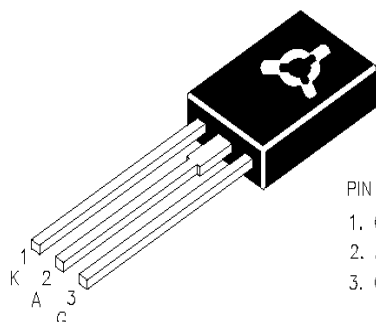


SCR

C106M, C106D

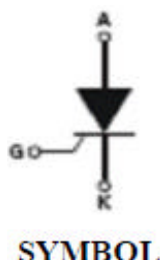
TO-126

Plastic Package



PIN CONFIGURATION:-

1. CATHODE
2. ANODE
3. GATE



SYMBOL

Features :

- . High Blocking Voltage
- . Low On-State Voltage and high I_{TSM}
- . RoHS Compliant

Description :

Suitable to fit all Models of Control like Phase control, Heating Control, Voltage Regulation Circuits etc.

ABSOLUTE MAXIMUM RATINGS ($T_J=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	CONDITIONS	MIN	MAX	UNIT
Repetitive Peak Off-State Voltage	V_{DRM}	C106M		600	V
		C106D		400	
Repetitive Peak Reverse Voltage	V_{RRM}	C106M		600	V
		C106D		400	
Average On-State Current	$I_{T(AV)}$	Half Sine wave, $T_{amb} \leq 109^\circ\text{C}$		2.5	A
On-State RMS Current	$I_{T(RMS)}$	All Conduction Angles		4	A
Non-Repetitive Surge Peak On-state Current	I_{TSM}	Full Sine Wave, $T_J=25^\circ\text{C}$, $t=10\text{ms}$		40	A
	I^2t	$t=10\text{ms}$		6	A^2s
Repetitive Rate of Rise of On-State Current After Triggering	di/dt	$I_{TM}=20\text{A}$, $I_G=0.2\text{A}$, $dI_G/dt=0.2\text{A}/\mu\text{s}$		50	$\text{A}/\mu\text{s}$
Peak Gate Current	I_{GM}			0.5	A
Peak Gate Power	P_{GM}			1	W
Average Gate Power	$P_{G(AV)}$	over any 20ms period		0.2	W
Storage Temperature Range	T_{STG}		-40	150	$^\circ\text{C}$
Operating Junction Temperature	T_J			125	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_J=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Peak Repetitive Forward Blocking Current	I_{DRM}	$V_{\text{DM}}=V_{\text{DRM}(\text{MAX})}$, $T_J=125^{\circ}\text{C}$		0.1	0.5	mA
Peak Repetitive Reverse Blocking Current	I_{RRM}	$V_{\text{RM}}=V_{\text{RRM}(\text{MAX})}$, $T_J=125^{\circ}\text{C}$		0.1	0.5	mA
Peak On-State Voltage	V_{TM}	$I_{\text{TM}}=4\text{A}$		1.3	2.2	V
Gate Trigger Current	I_{GT}	$V_{\text{DM}}=12\text{V}$, $I_{\text{T}}=0.1\text{A}$		50	200	μA
Gate Trigger Voltage	V_{GT}	$V_{\text{DM}}=12\text{V}$, $I_{\text{T}}=0.1\text{A}$		0.4	1.5	V
Holding Current	I_{H}	$V_{\text{DM}}=12\text{V}$, $I_{\text{GT}}=0.1\text{A}$		0.3	6	mA
Latching Current	I_{L}	$V_{\text{DM}}=12\text{V}$, $I_{\text{GT}}=0.1\text{A}$		0.4	10	mA
Rise of Off-State Voltage	dV/dt	$V_{\text{DM}}=67\%V_{\text{DRM}(\text{MAX})}$, $T_J=125^{\circ}\text{C}$	50	100		$\text{V}/\mu\text{s}$
Gate Controlled Turn-On Time	t_{gt}	$I_{\text{TM}}=40\text{A}$, $V_{\text{DM}}=V_{\text{DRM}(\text{MAX})}$, $I_{\text{G}}=0.1\text{A}$, $dI_{\text{G}}/dt=5\text{A}/\mu\text{s}$		2		μs

THERMAL RESISTANCE

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Junction to Case (AC)	$R_{\text{th}(\text{J-C})}$			3.0	K/W
Junction to Ambient	$R_{\text{th}(\text{J-A})}$		75		K/W

TYPICAL CHARACTERISTICS CURVES

Fig. 1: Maximum average power dissipation versus average on-state current.

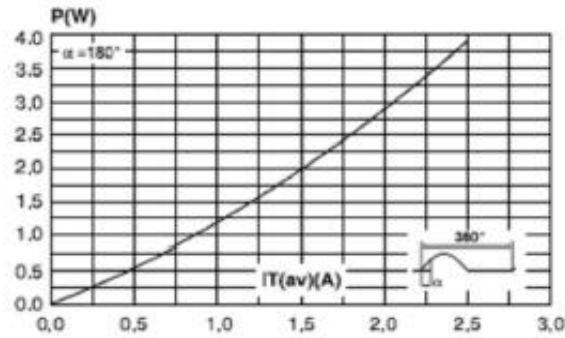


Fig.2 On-state characteristics (maximum values).

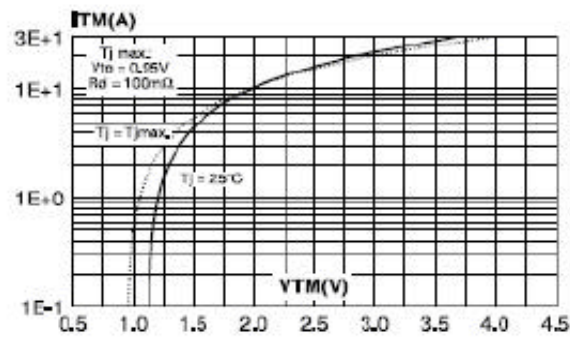
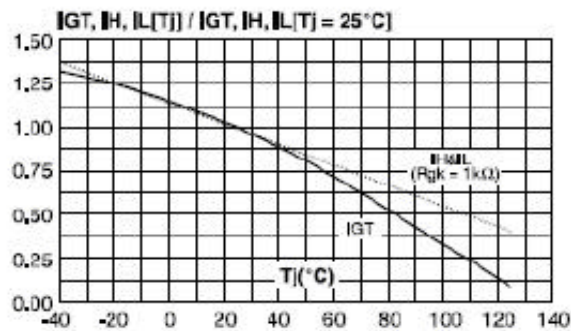
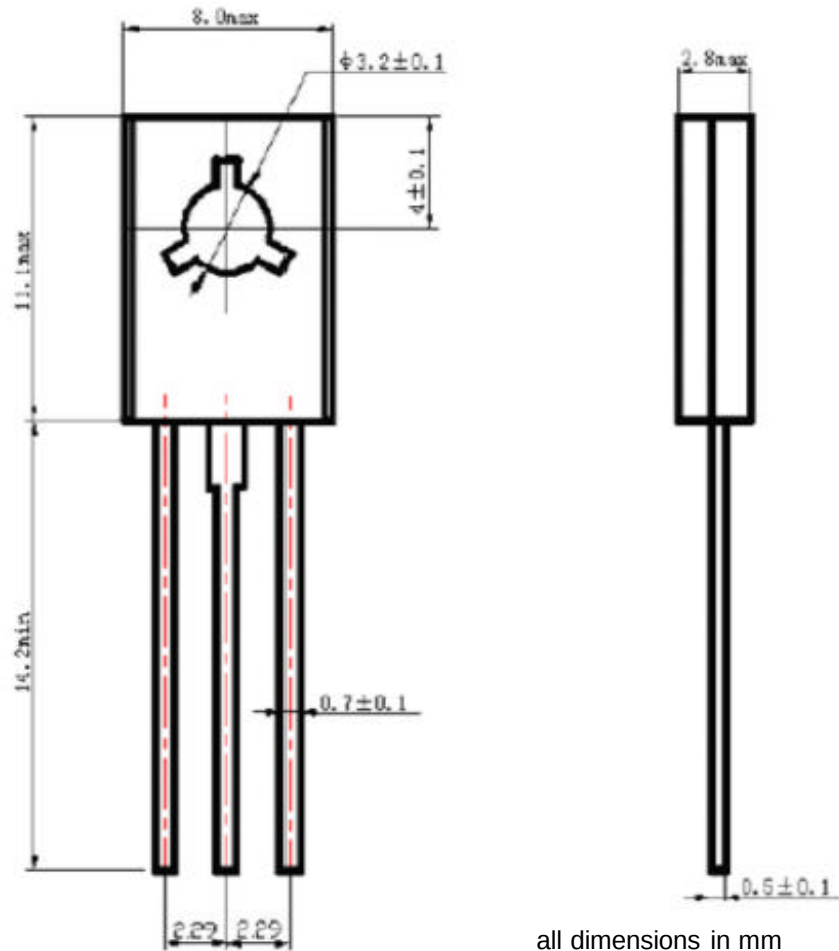


FIG. 3 Relative variation of gate trigger current, holding current and latching current versus junction temperature (typical values).



TO-126 PACKAGE OUTLINE AND DIMENSION



all dimensions in mm



Continental Device India Limited

An ISO/TS 16949, ISO 9001 and ISO 14001 Certified Company



Customer Notes

Component Disposal Instructions

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

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 damages resulting from such sale(s).

CDIL strives for continuous improvement and reserves the right to change the specifications of its products without prior notice.



CDIL is a registered Trademark of

Continental Device India Limited

C-120 Naraina Industrial Area, New Delhi 110 028, India.

Telephone + 91-11-2579 6150, 4141 1112 Fax + 91-11-2579 5290, 4141 1119

e-mail sales@cdil.com www.cdil.com

CDIL is a registered Trademark of Continental Device India Limited