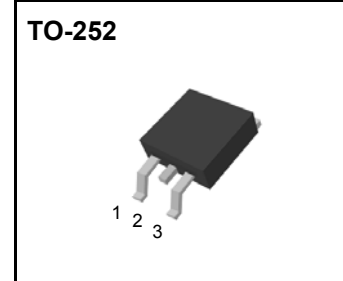
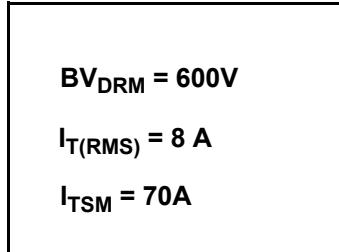
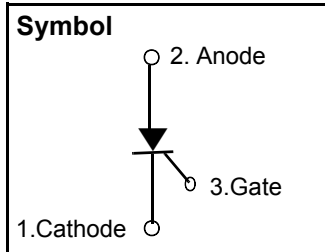
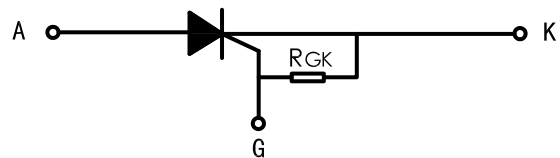


## Sensitive Gate Silicon Controlled Rectifiers



### Features

- ◆ Repetitive Peak Off-State Voltage : 600V
- ◆ R.M.S On-State Current (  $I_{T(RMS)} = 8 A$  )



### General Description

Apollo Electron's SCR is suitable for the application where requiring high bidirectional blocking voltage capability and also suitable for over voltage protection, motor control circuit in power tool, inrush current limit circuit and heating control system.

### ABSOLUTE MAXIMUM RATINGS

Paramter	Symbol	Value	Units
Storage Junction Temperature Range	Tstg	-40~150	°C
Operating Junction Temperature Range	Tj	-40~110	°C
Repetitive Peak Off-State Voltage Tj=25°C	VDRM	600	V
Repetitive Peak Reverse Voltage	VRRM	600	V
RMS On-State Current (180° conduction angle) TI=105°C	IT(RMS)	8	A
Average On-Stage Current (180° conduction angle) TI=105°C	IT(AV)	5	A
Non Repetitive Surge Peak On-State Current(Tj=25°C)	ITSM	tp=10ms	70
		tp=8.3ms	73
I²t Value For Fusing tp=10ms	I²t	24.5	A²s
Critical Rate Of Rise Of On-State Current IG=2 x IGT, tr≤100ns, f=50Hz, Tj=110°C	di/dt	50	A/us
Peak Gate Current tp=20us, Tj=125°C	IGM	4	A
Average Gate Power Dissipation Tj=125°C	PG(AV)	1	W



# CD8C60SR

ELECTRICAL CHARACTERISTICS (T<sub>j</sub>=25°C unless otherwise specified)

Symbol	Test Condition			Unit
IGT	VD=6V RL=140Ω	MAX	100	uA
VGT		MAX	0.8	V
VGD	VD=VDRM RL=3.3KΩ RGK=220Ω T <sub>j</sub> =125°C	MIN	0.1	V
IL	IG=1mA RGK=1KΩ	MAX	6	mA
IH	IT=50mA RGK=1KΩ	MAX	5	mA
VTM	IT=16A tp=380uS T <sub>j</sub> =25°C	MAX	1.6	V
dv/dt	VD=65% VDRM RGK=220Ω	MIN	5	V/μs
IDRM	VDRM=VRRM RGK=220Ω T <sub>J</sub> =25°C	MAX	5	uA
IRRM	VDRM=VRRM RGK=220Ω T <sub>J</sub> =125°C		1	mA
RGK			6~35	KΩ

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
Rth(J-c)	Junction To Case(DC)	20	°C/W



# CD8C60SR

Fig 1 Maximum Average Power Dissipation vs. Average On-State Current

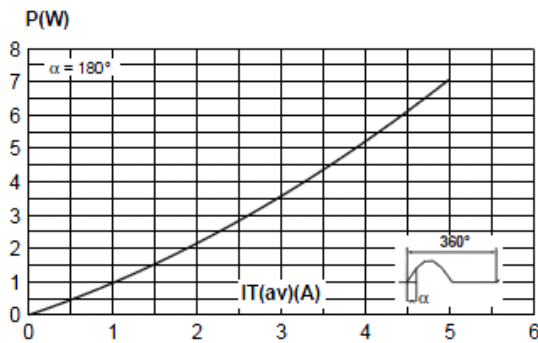


Fig 2 Average And D.C. On-State Current vs. Lead Temperature

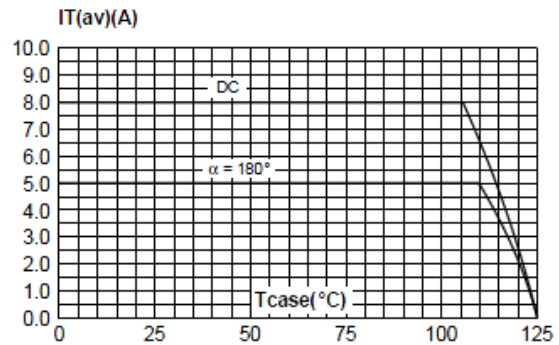


Fig.3 Surge Peak On-State Current vs. Number Of Cycles

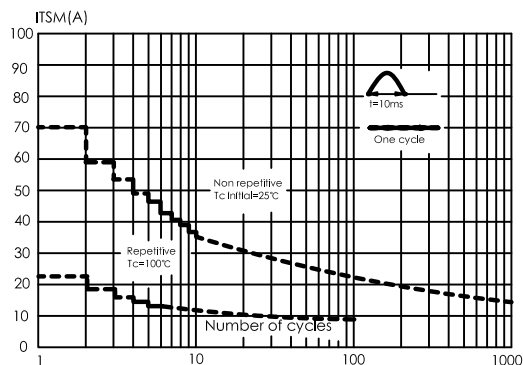


Fig.4 Non-Repetitive Surge Peak On-State Current For a Sinusoidal Pulse With Width  $t_p < 10\text{ms}$ , And Corresponding Value Of  $I^2t$

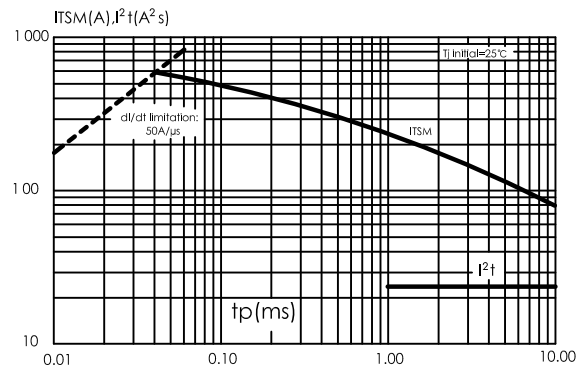


Fig.5 Relative Variation Of Gate Trigger Current, Holding Current and Latching Current vs. Junction Temperature (typical values)

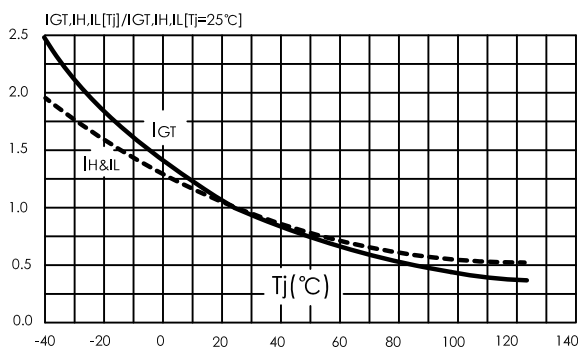
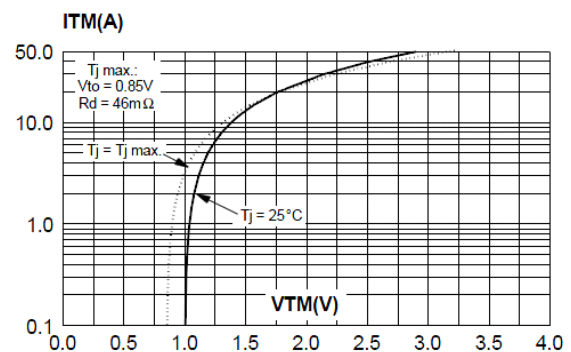


Fig.6 On-State Characteristics (maximum values)





## TO-252 Package Dimension

Symbol	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.20	2.3	2.40	0.087	0.0905	0.094
B	1.30	1.4	1.50	0.051	0.055	0.059
b	0.55	0.6	0.65	0.022	0.024	0.026
b1	0.46	0.51	0.56	0.018	0.02	0.022
C	0.46	0.51	0.56	0.018	0.02	0.022
D	6.40	6.5	6.60	0.252	0.256	0.260
D1	5.20	5.3	5.40	0.205	0.2085	0.212
E	5.40	2.285	5.60	0.212	0.09	0.220
e1	2.25	2.3	2.35	0.089	0.091	0.093
e2	4.50	4.6	4.70	0.177	0.181	0.185
L1	9.25	9.5	9.75	0.346	0.365	0.384
L2	0.95	1.2	1.45	0.037	0.047	0.057

