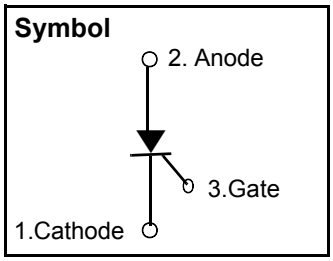
CD8C60SR

Sensitive Gate Silicon Controlled Rectifiers

Symbol

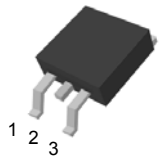


BV_{DRM} = 600V

$I_{T(RMS)}$ = 8 A

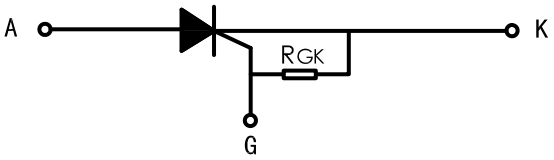
I_{TSM} = 70A

TO-252



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	℃
Operating Junction Temperature Range		T j	-40~110	℃
Repetitive Peak Off-State Voltage T j=25℃		VDRM	600	V
Repetitive Peak Reverse Voltage		VRRM	600	V
RMS On-State Current (180° conduction angle) TI=105℃		IT(RMS)	8	A
Average On-Stage Current (180° conduction angle) TI=105℃		IT(AV)	5	A
Non Repetitive Surge Peak On-State Current(T j=25℃)	tp=10ms	ITSM	70	A
	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, T j=110℃		dl/dt	50	A/us
Peak Gate Current tp=20us, T j=125℃		IGM	4	A
Average Gate Power Dissipation T j=125℃		PG(AV)	1	W

ELECTRICAL CHARACTERISTICS (T j=25℃ unless otherwise specified)

Symbol	Test Condition			Unit
I_{GT}	VD=6V RL=140Ω	MAX	100	uA
V_{GT}		MAX	0.8	V
V_{GD}	V_D=V_{DRM} R_L=3.3KΩ R_{GK}=220Ω T j=125℃	MIN	0.1	V
I_L	I_G=1mA R_{GK}=1KΩ	MAX	6	mA
I_H	I_T=50mA R_{GK}=1KΩ	MAX	5	mA
V_{TM}	I_T=16A tp=380uS T j=25℃	MAX	1.6	V
dv/dt	V_D=65% V_{DRM} R_{GK}=220Ω	MIN	5	V/μs
I_{DRM}	V_{DRM}=V_{RRM} R_{GK}=220Ω T J=25℃	MAX	5	uA
I_{RRM}	V_{DRM}=V_{RRM} R_{GK}=220Ω T J=125℃		1	mA
R_{GK}			6~35	KΩ

THERMAL RESISTANCES

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

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

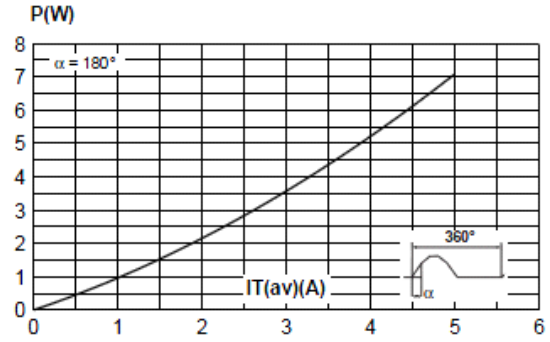


Fig 2 Average And D.C. On-State Current vs. Lead Temperature

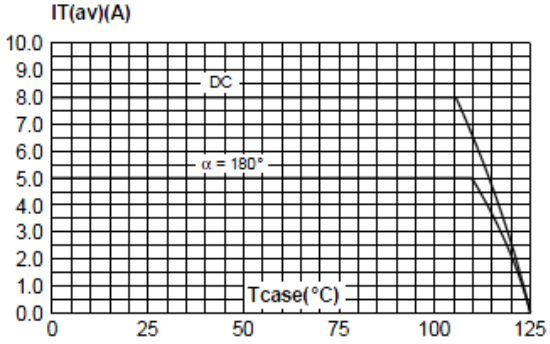


Fig.3 Surge Peak On-State Current vs. Number Of Cycles

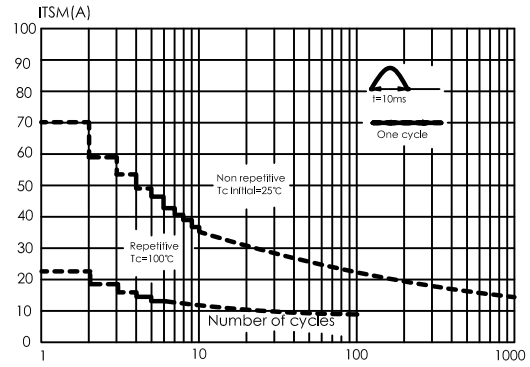


Fig.4 Non-Repetitive Surge Peak On-State Current For a Sinusoidal Pulse With Width tp < 10ms, And Corresponding Value Of I²t

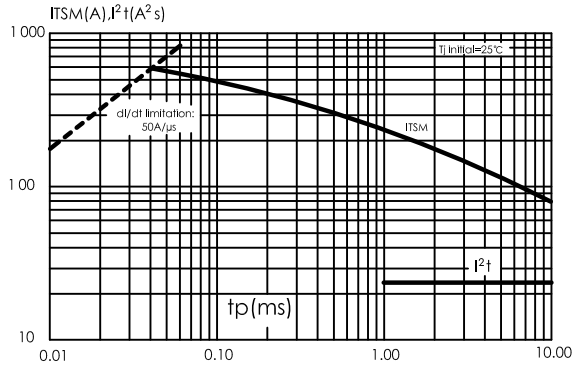


Fig.5 Relative Variation Of Gate Trigger Current, Holding Current and Latching Current vs. Junction Temperature (typical values)

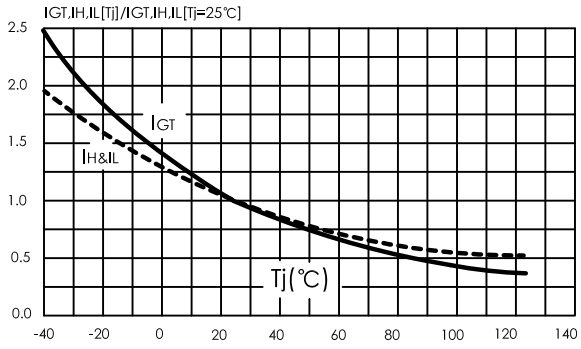
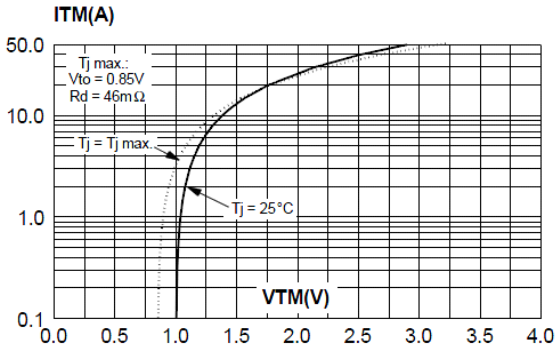


Fig.6 On-State Characteristics (maximum values)



TO-252 Package Dimension

Symbol	Milimeters			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