Ordering number : EN819D

SANYO

No.819D

DRA5

Silicon Diffused Junction Type

5.0A Reverse Blocking Thyristor

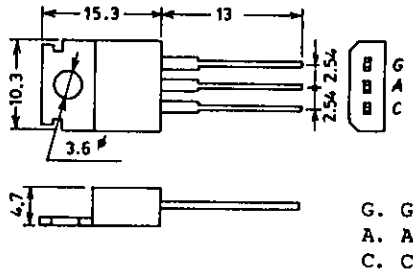
Features

- Glass passivation for high reliability
- Peak OFF-state (reverse) voltage : −100 to −600V
- Average ON-state current : 5A
- TO-220 package
- Weight : 2g

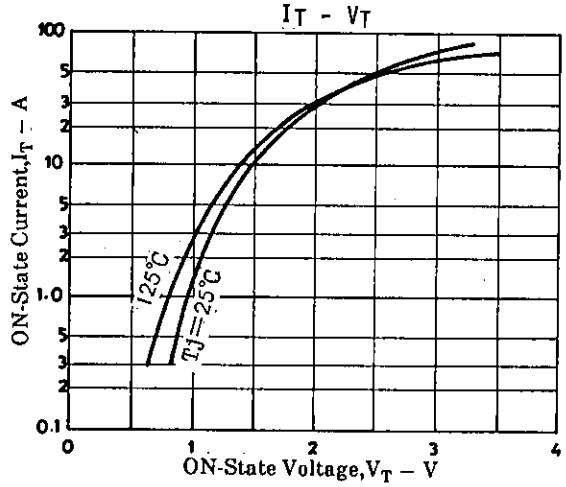
Absolute Maximum Ratings at Ta = 25°C			DRA5B	DRA5C	DRA5E	DRA5G	unit
Repetitive Peak OFF-State Voltage	V_{DRM}		100	200	400	600	V
Non-Repetitive Peak Reverse Voltage	V_{RSM}		−150	−300	−500	−700	V
Repetitive Peak Reverse Voltage	V_{RRM}		−100	−200	−400	−600	V
Average ON-State Current	$I_{T(AV)}$	Tc = 91°C, single-phase half-wave	→	→	→	5	A
RMS ON-State Current	$I_{T(RMS)}$		→	→	→	7.8	A
Surge ON-State Current	I_{TSM}	Sine half-wave 1 cycle, 50Hz	→	→	→	80	A
Amperes Squared-Seconds	$\int i^2T \cdot dt$		→	→	→	32	A^2S
Peak Gate Power Dissipation	P_{GM}		→	→	→	5	W
Average Gate Power Dissipation	$P_{G(AV)}$		→	→	→	0.5	W
Peak Gate Forward Current	I_{FGM}		→	→	→	2	A
Peak Gate Forward Voltage	V_{FGM}		→	→	→	10	V
Peak Gate Reverse Voltage	V_{RGM}		→	→	→	5	V
Junction Temperature	Tj		→	→	→	125	°C
Storage Temperature	Tstg		→	→	−40 to +125		°C

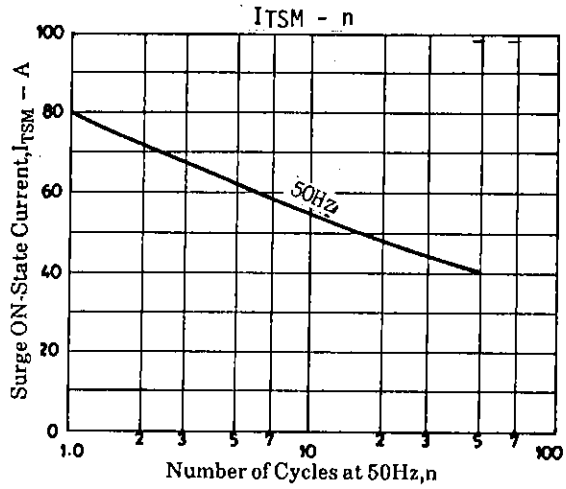
Electrical Characteristics at Ta = 25°C			min	typ	max	unit
Repetitive Peak OFF-State Current	I_{DRM}	Tj = 125°C, $V_D = V_{DRM}$			2	mA
Repetitive Peak Reverse Current	I_{RRM}	Tj = 125°C, $V_R = V_{RRM}$			2	mA
ON-State Voltage	V_T	I_T = 15A			1.6	V
Critical Rate of Rise of OFF-State Voltage	dv/dt	Tc = 125°C, $V_D = 2/3V_{DRM}$	30			V/μs
Holding Current	I_H	$R_L = 100\Omega$			60	mA
Gate Trigger Current	I_{GT}	V_D = 6V, $R_L = 10\Omega$			40	mA
Gate Trigger Voltage	V_{GT}	V_D = 6V, $R_L = 10\Omega$			1.5	V
Gate Nontrigger Voltage	V_{GD}	Tc = 125°C, $V_D = 2/3V_{DRM}$	0.2			V
Thermal Resistance	$R_{th(j-c)}$				3	°C/W

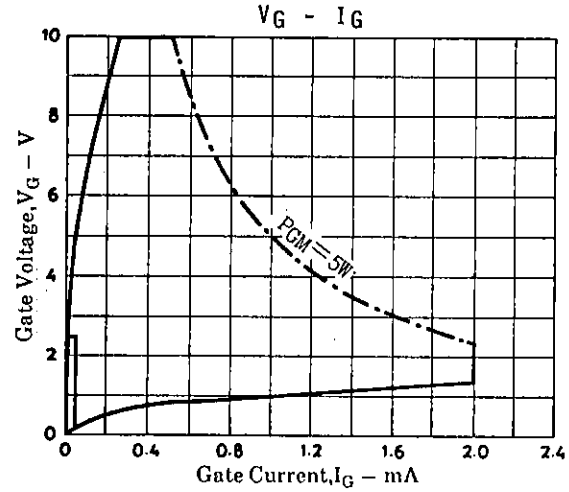
Package Dimensions 1104
(unit: mm)

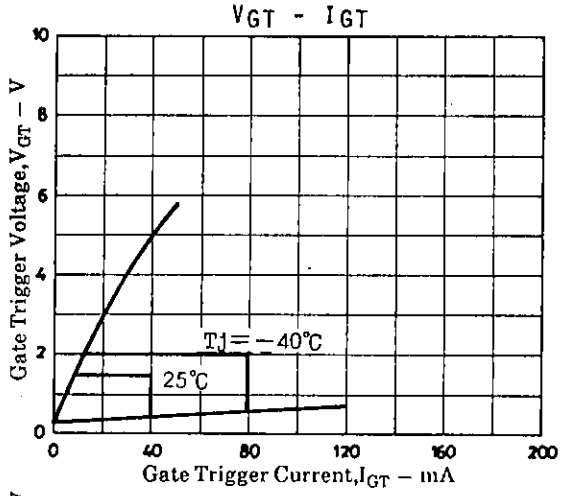


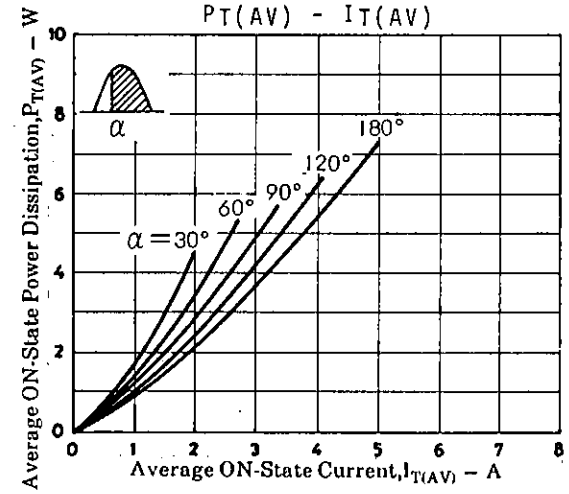
G. Gate
A. Anode
C. Cathode

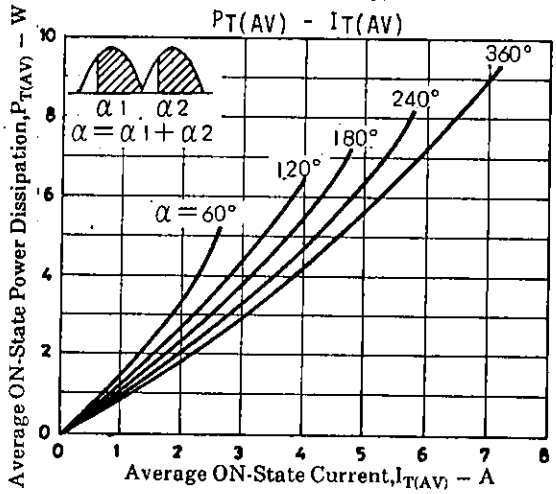

IT - VT
ON-State Current,IT – A
ON-State Voltage,VT – V
125°C
Tj=25°C

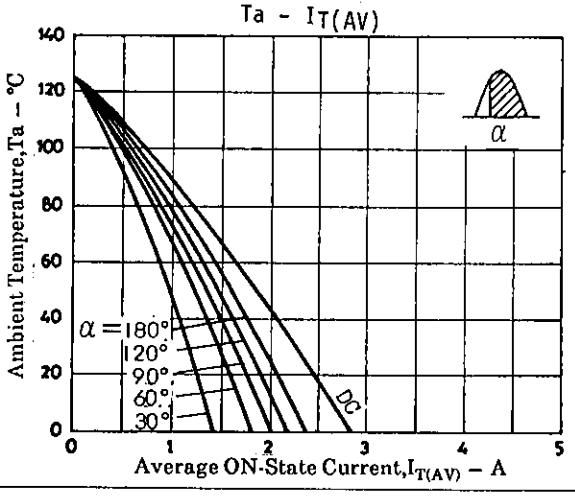

ITSM - n
Surge ON-State Current,ITSM – A
Number of Cycles at 50Hz,n
50Hz

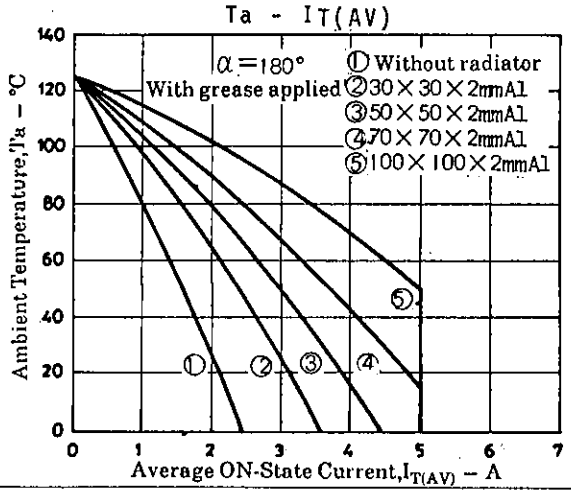

VG - IG
Gate Voltage,VG – V
Gate Current,IG – mA
PGM=5W

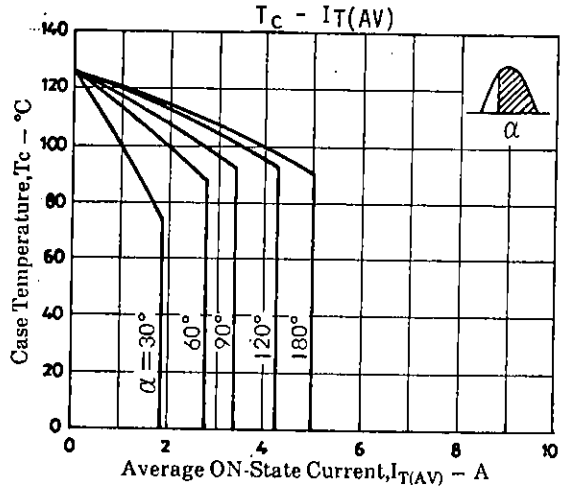

VGT - IGT
Gate Trigger Voltage,VGT – V
Gate Trigger Current,IGT – mA
Tj=–40°C
25°C

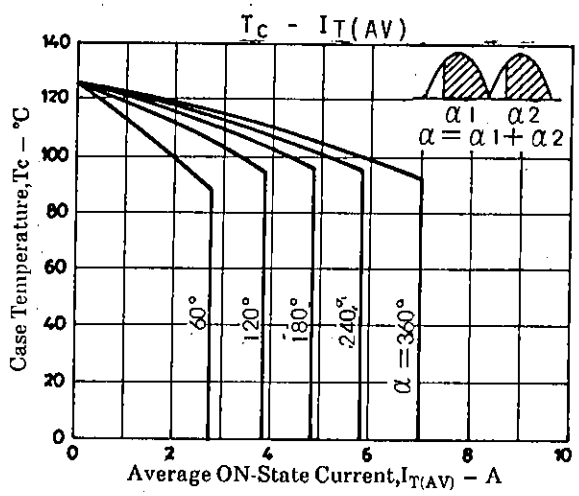

PT(AV) - IT(AV)
Average ON-State Power Dissipation,PT(AV) – W
Average ON-State Current,IT(AV) – A
α
α=30°
60°
90°
120°
180°

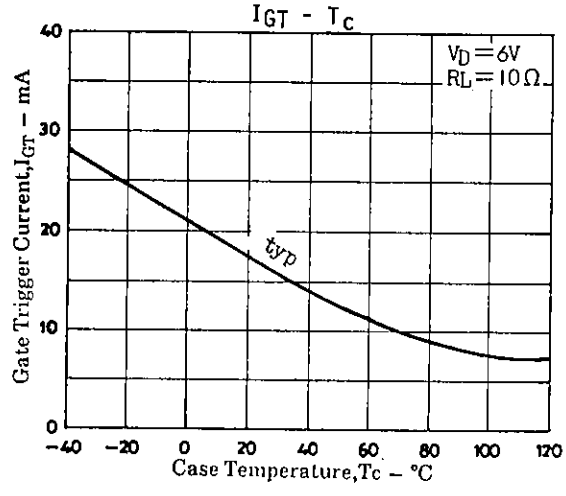

PT(AV) - IT(AV)
Average ON-State Power Dissipation,PT(AV) – W
Average ON-State Current,IT(AV) – A
α1 α2
α=α1+α2
α=60°
120°
180°
240°
360°

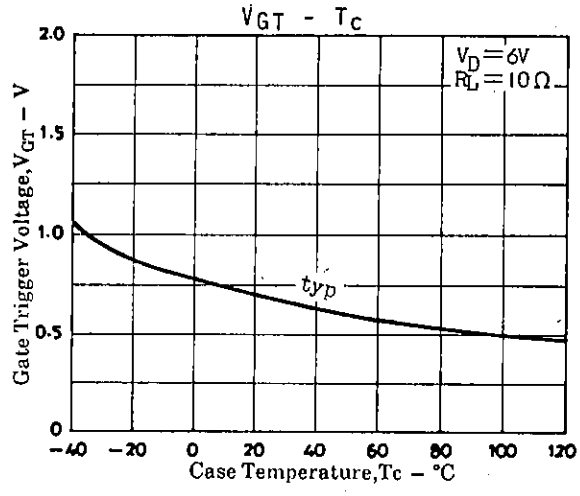

Ta - IT(AV)
Ambient Temperature,Ta – °C
Average ON-State Current,IT(AV) – A
α
α=180°
120°
90°
60°
30°
DC

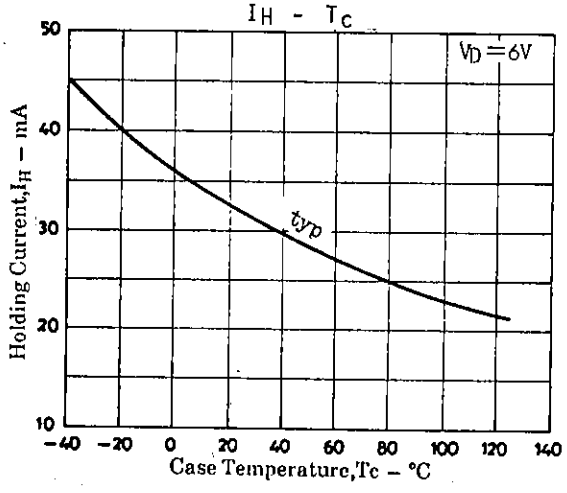

Ta - IT(AV)
Ambient Temperature,Ta – °C
Average ON-State Current,IT(AV) – A
α=180°
With grease applied
①Without radiator
②30×30×2mmAl
③50×50×2mmAl
④70×70×2mmAl
⑤100×100×2mmAl

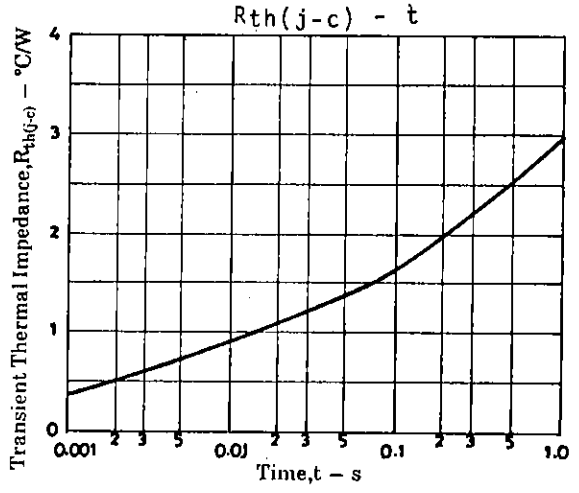












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