Ordering number:EN1913C

SANYO

DRE3

Silicon Diffused Junction Type

3.0A Reverse Blocking Thyristor

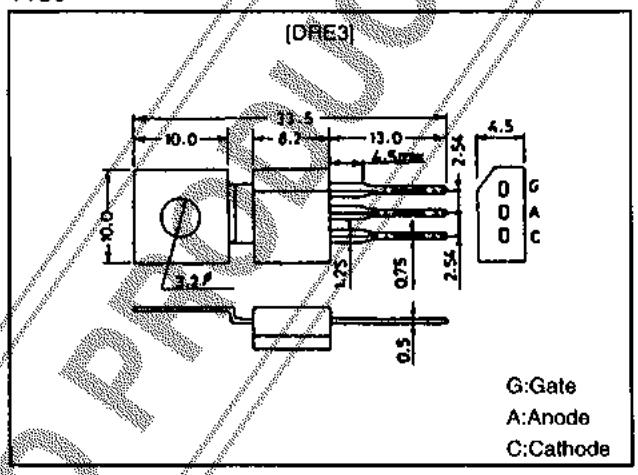
Features

- Glass passivation for high reliability.
- Peak OFF-state (reverse) voltage : 100 to 600V.
- Average ON-state current : 3A.
- TO-202 package.

Package Dimensions

unit:mm

1150



Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	DRE3B	DRE3C	DRE3E	DRE3G	Unit
Repetitive Peak OFF-State Voltage	V_{DRM}	R_{GK}=330Ω	100	200	400	600	V
Non-Repetitive Peak Reverse Voltage	V_{RSM}	R_{GK}=330Ω	150	300	500	720	V
Repetitive Peak Reverse Voltage	V_{RRM}	R_{GK}=330Ω	100	200	400	600	V
Average ON-State Current	$I_{T(AV)}$	Ta=90°C, single-phase half-wave	→	→	→	3	A
RMS ON-State Current	$I_{T(RMS)}$		→	→	→	4.7	A
Surge ON-State Current	I_{TSM}	Sine half-wave, 1 cycle, 50Hz	→	→	→	60	A
Amperes Squared-Seconds	I^2T dt	1ms≤t≤10ms	→	→	→	20	A^2S
Peak Gate Power Dissipation	P_{GM}	f≥50Hz, duty≤10%	→	→	→	0.5	W
Average Gate Power Dissipation	$P_{G(AV)}$		→	→	→	0.05	W
Peak Gate Forward Current	I_{FGM}	f≥50Hz, duty≤10%	→	→	→	0.2	A
Peak Gate Reverse Voltage	V_{RGM}		→	→	→	5	V
Junction Temperature	Tj		→	→	→	125	°C
Storage Temperature	Tstg		→	→	→	-40 to +125	°C
Weight			→	→	→	1.5	g

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Repetitive Peak OFF-State Current	I_{DRM}	Tj=125°C, V_D=V_{DRM}, R_{GK}=330Ω			2	mA
Repetitive Peak Reverse Current	I_{RRM}	Tj=125°C, V_D=V_{RRM}, R_{GK}=330Ω			2	mA
Peak ON-State Voltage	V_{TM}	I_{TM}=12A			1.6	V
Critical Rate of Rise of OFF-State Voltage	dv/dt	Tj=75°C, V_D=2/3V_{DRM}, R_{GK}=330Ω		50		V/μs
Holding Current	I_H	R_L=100Ω, R_{GK}=330Ω		1		mA
Gate Trigger Current	I_{GT}	V_D=6V, R_L=100Ω, R_{GK}=330Ω			200	μA
Gate Trigger Voltage	V_{GT}	V_D=6V, R_L=100Ω, R_{GK}=330Ω			0.8	V
Gate Nontrigger Voltage	V_{GD}	Ta=125°C, V_D=2/3V_{DRM}, R_{GK}=330Ω	0.2			V
Thermal Resistance	Rth(j-c)				6.0	°C/W

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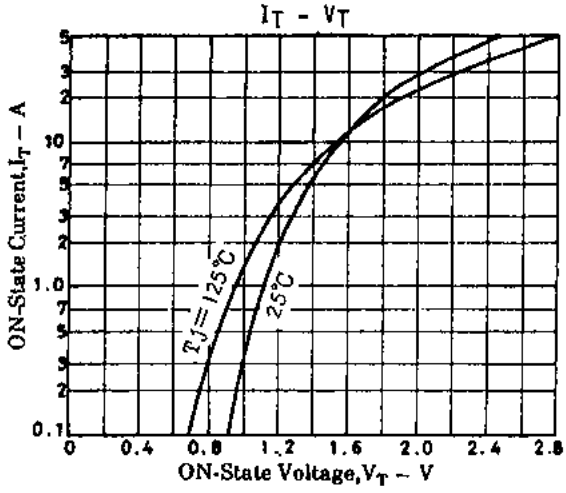
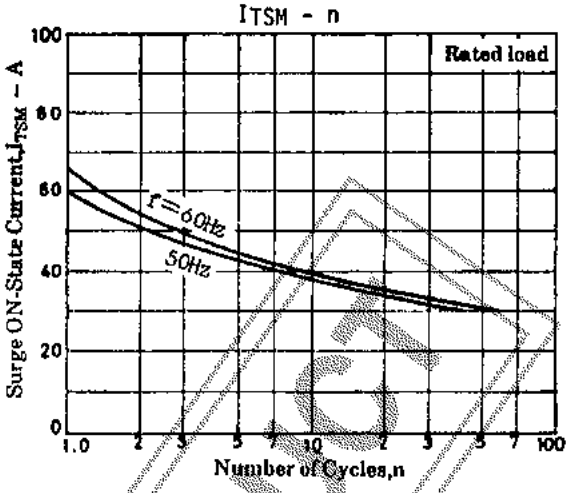
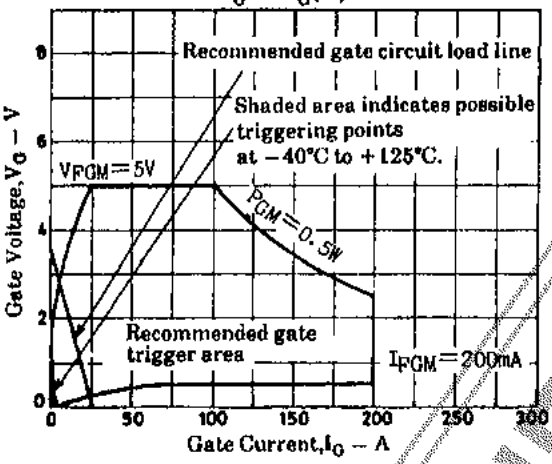
$I_T - V_T$



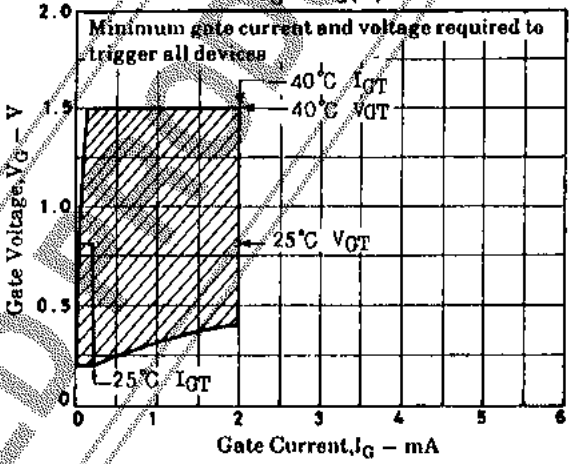
$I_{TSM} - n$



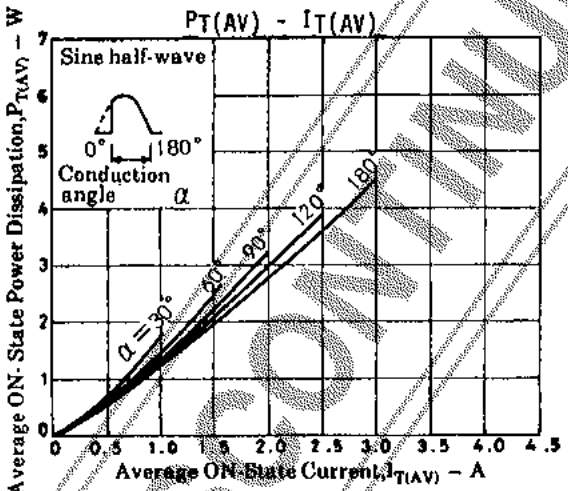
$V_G - I_{G(1)}$



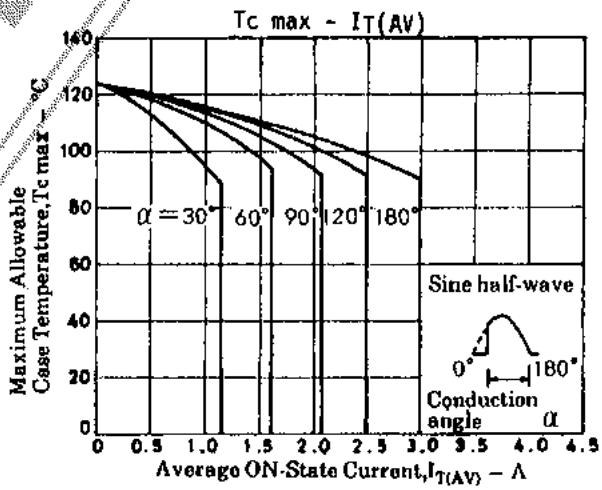
$V_G - I_{G(2)}$



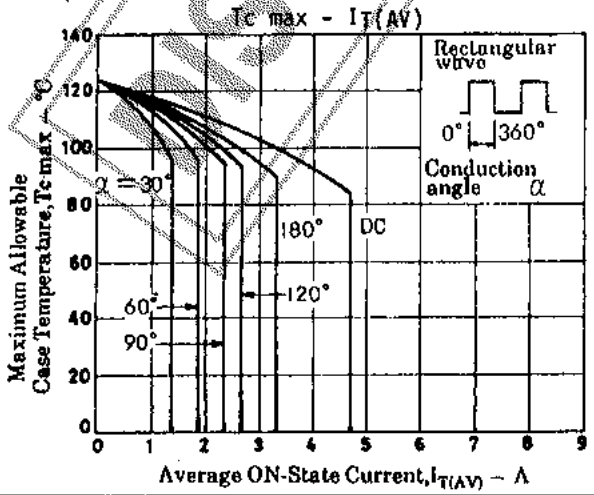
$P_{T(AV)} - I_{T(AV)}$



T_C max – $I_{T(AV)}$



T_C max – $I_{T(AV)}$



$I_{GT} - T_C$