Nihon Inter Electronics Corporation

30A, 600V, TO-247

THYRISTOR Type：30KRC60

Cnstruction : Center Gate Planner Type
Application : AC Power Conrol For General Use

Absolute Maximum Ratings

Rating	Symbol	Voltage Ratings			Unit
		30KRC60			
Repetitive Peak off-state Voltage	V_{DRM}	600			V
Non-repetitive Peak off-state Voltage	V_{DSM}	700			V
Repetitive Peak Reverse Voltage	V_{RRM}	600			V
Non-repetitive Peak Reverse Voltage	V_{RSM}	700			V

Rating	Symbol	Conditions	Max. Rated Value	Unit
Average On-State Current	$Io_{(AV)}$	180° Conduction, Tc=80 °C	30	A
RMS On-State Current	$I_{T(RMS)}$		47	A
Surge On-State Current	I_{TSM}	50Hz Half Sine Wave, 1Pulse, Non-Repetitive	600	A
I Squared t	I^2t	2 to 10ms	1800	A^2s
Peak Gate Power	P_{GM}		5	W
Average Gate Power	$P_{G(AV)}$		1	W
Peak Forward Gate Current	I_{GM}		2	A
Peak Forward Gate Voltage	V_{GM}		10	V
Peak Reverse Gate Voltage	V_{RGM}		5	V
Operating Junction Temperature Range	Tjw		−40 to +125	℃
Storage Temperature Range	Tstg		−40 to +150	℃
Mounting Force		Recommended Value	0.5	N•m

Electrical Characteristics

Characteristics	Symbol	Conditions		Min.	Typ.	Max.	Unit
Peak Off-State Current	I_{DM}	$V_{DM}=V_{DRM}$	Tj=25℃			0.5	mA
			Tj=125℃			10	
Peak Reverse Current	I_{RM}	$V_{RM}=V_{RRM}$	Tj=25℃			0.5	mA
			Tj=125℃			10	
Peak On-State Voltage	V_{TM}	Tj=25℃, I_{TM}=90A				1.5	V
Gate Trigger Current	I_{GT}	$V_D=6V, I_T=1A$	Tj=-40℃			220	mA
			Tj=25℃			100	
			Tj=125℃			50	
Gate Trigger Voltage	V_{GT}	$V_D=6V, I_T=1A$	Tj=-40℃			4.0	V
			Tj=25℃			2.5	
			Tj=125℃			2.0	
Gate Non-Trigger Current	V_{GD}	Tj=125℃, V_D=2/3• V_{DRM}		0.25			V
Turn-On Time	t_g	Tj=125℃, V_D=2/3• V_{DRM}			6		μs
Delay Time	t_d				2		μs
Rise Time	t_r				4		μs
Latching Current	I_L	Tj=25℃			100		mA
Holding Current	I_H	Tj=25℃			50		mA
Thermal Resistance	Rth(j-c)	Junction to Case				1.0	℃/W

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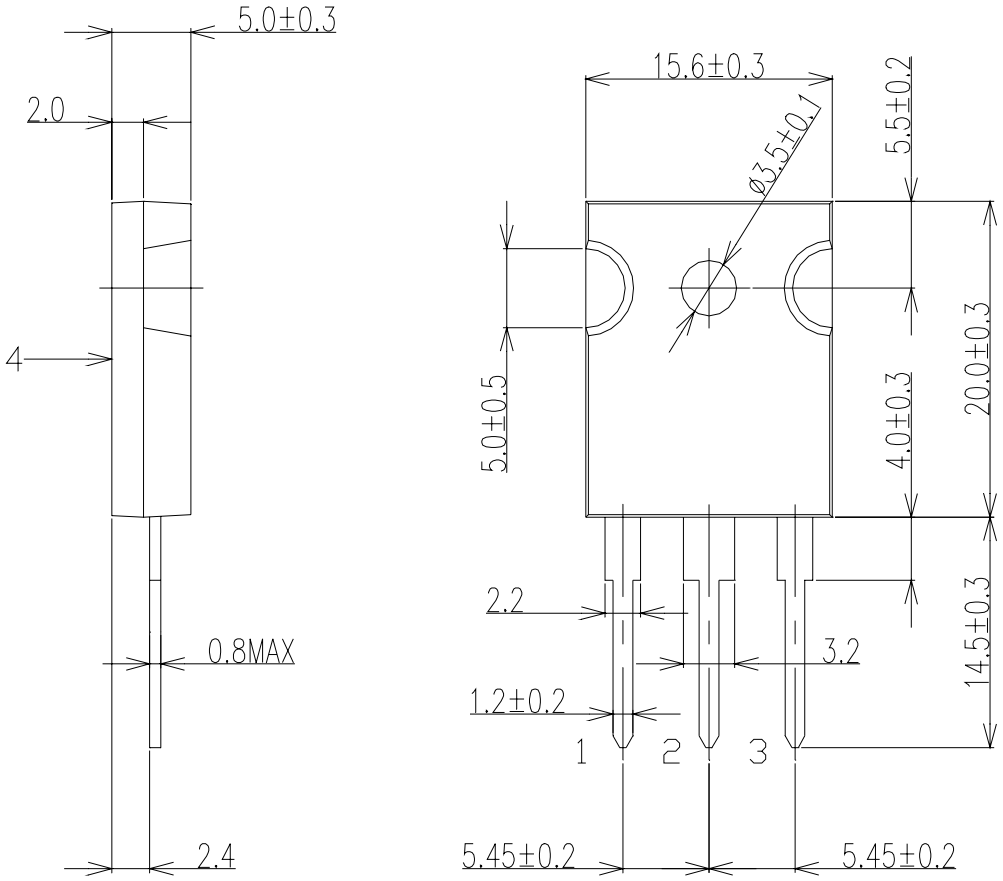
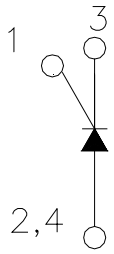
30KRC60 OUTLINE DRAWING (UNIT: mm) weight : 5.55gr

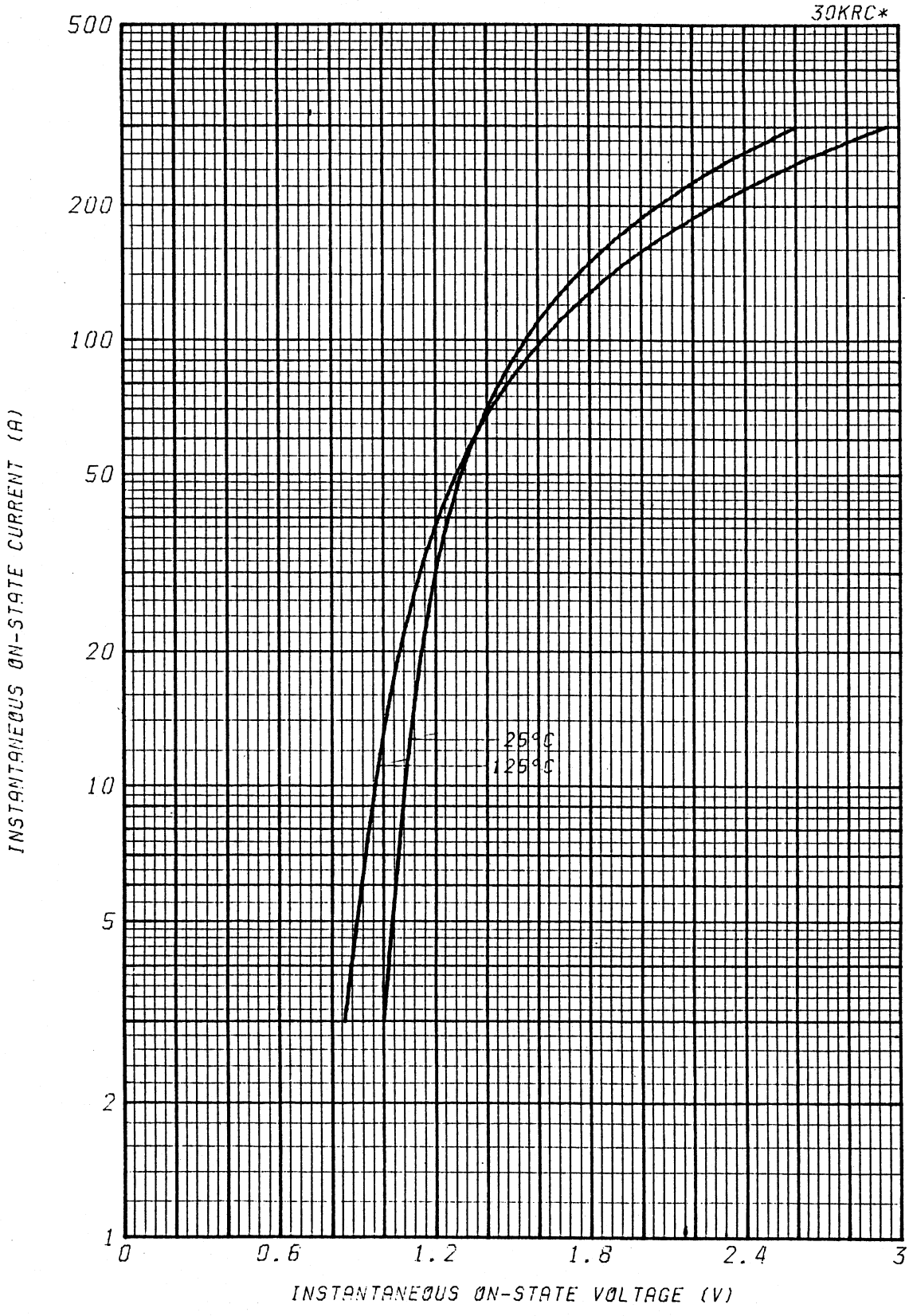




1:Gate
2,4:Anode
3:Cathode

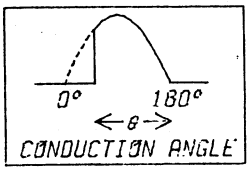
オン電圧特性

ON-STATE CURRENT VS. VOLTAGE



オン電流 （A）

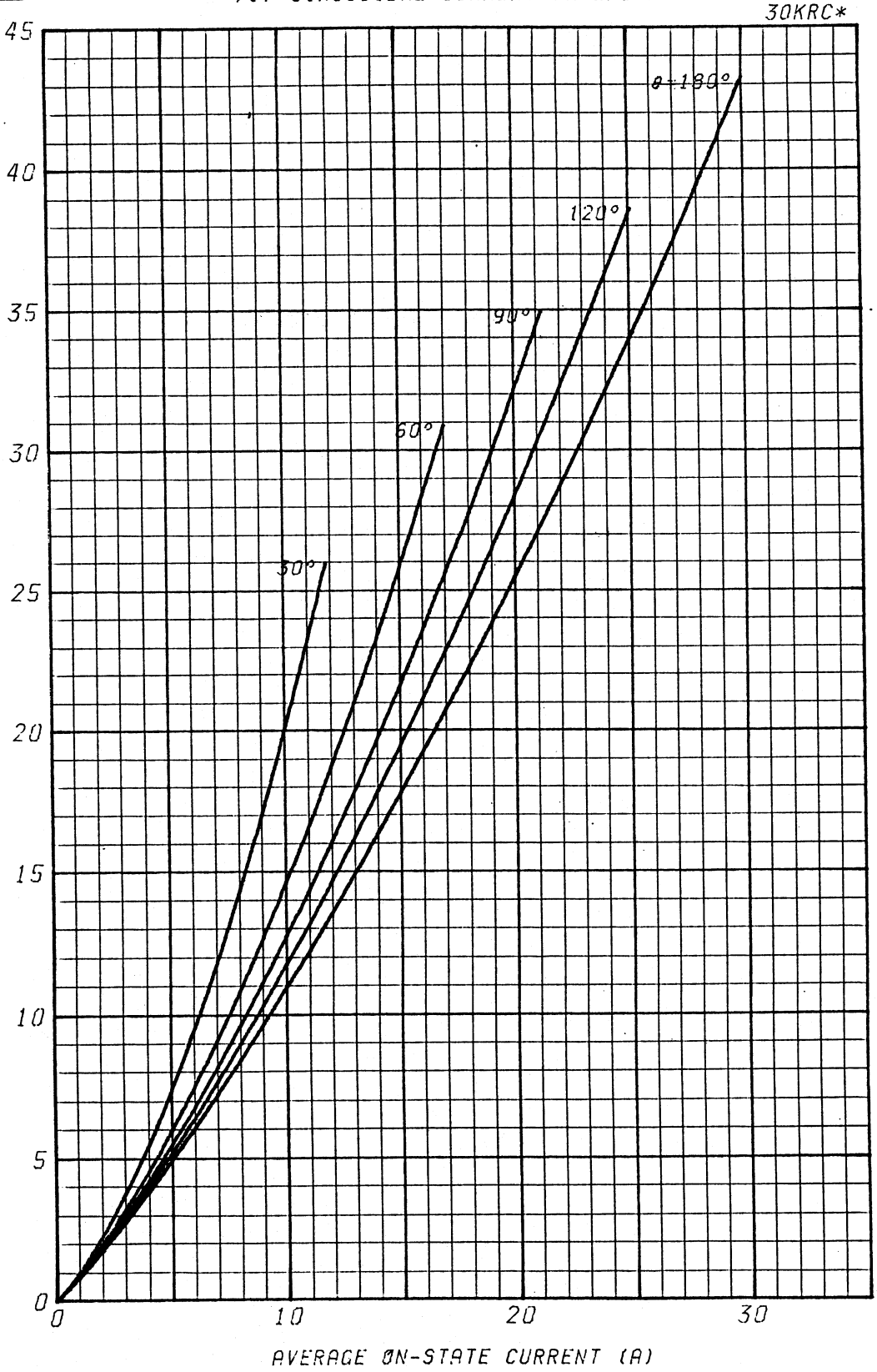
オン電圧 （V）



平均オン電力損失特性
（正弦波 50Hz）

AVERAGE ON-STATE POWER DISSIPATION
for SINUSOIDAL CURRENT WAVEFORM

30KRC*



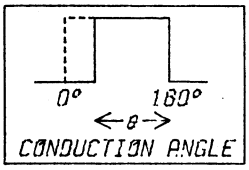
AVERAGE ON-STATE POWER LOSS (W)

平均オン電力損失（W）

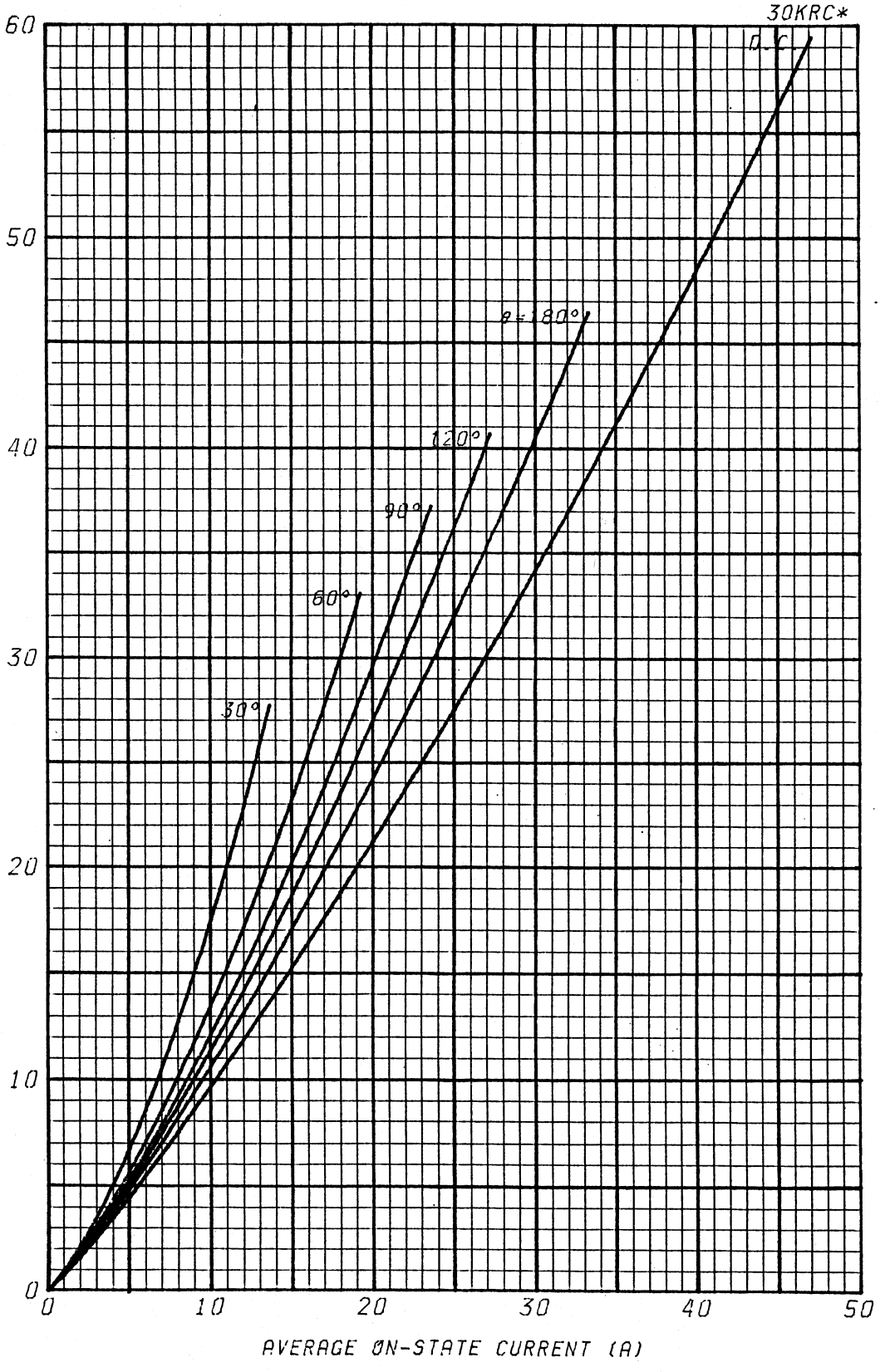
AVERAGE ON-STATE CURRENT (A)

平均オン電流 （A）

平均オン電力損失特性
（方形波 50Hz）

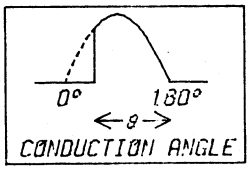


AVERAGE ON-STATE POWER DISSIPATION
for RECTANGULAR CURRENT WAVEFORM



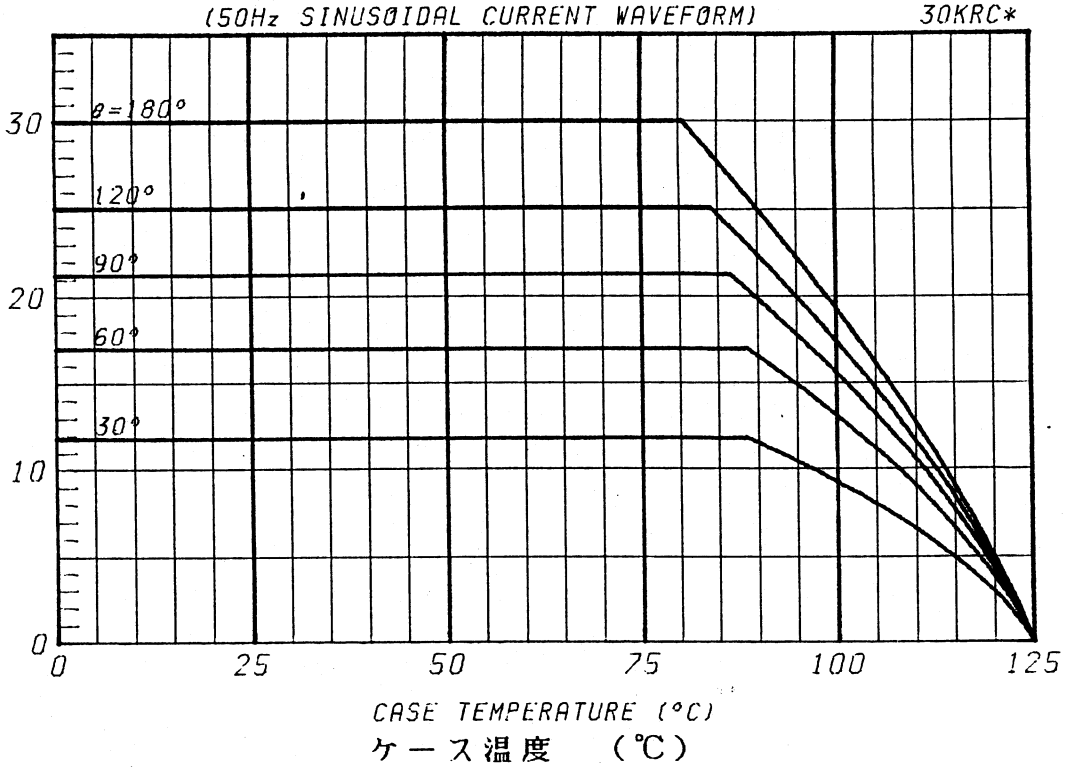
平均オン電力損失（W）

平均オン電流 （A）



平均オン電流 － ケース温度定格
（正弦波 ５０Ｈｚ）
AVERAGE ON-STATE CURRENT VS. CASE TEMPERATURE

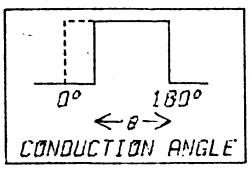
(50Hz SINUSOIDAL CURRENT WAVEFORM) 30KRC*



平均オン電流 （A） AVERAGE ON-STATE CURRENT (A)

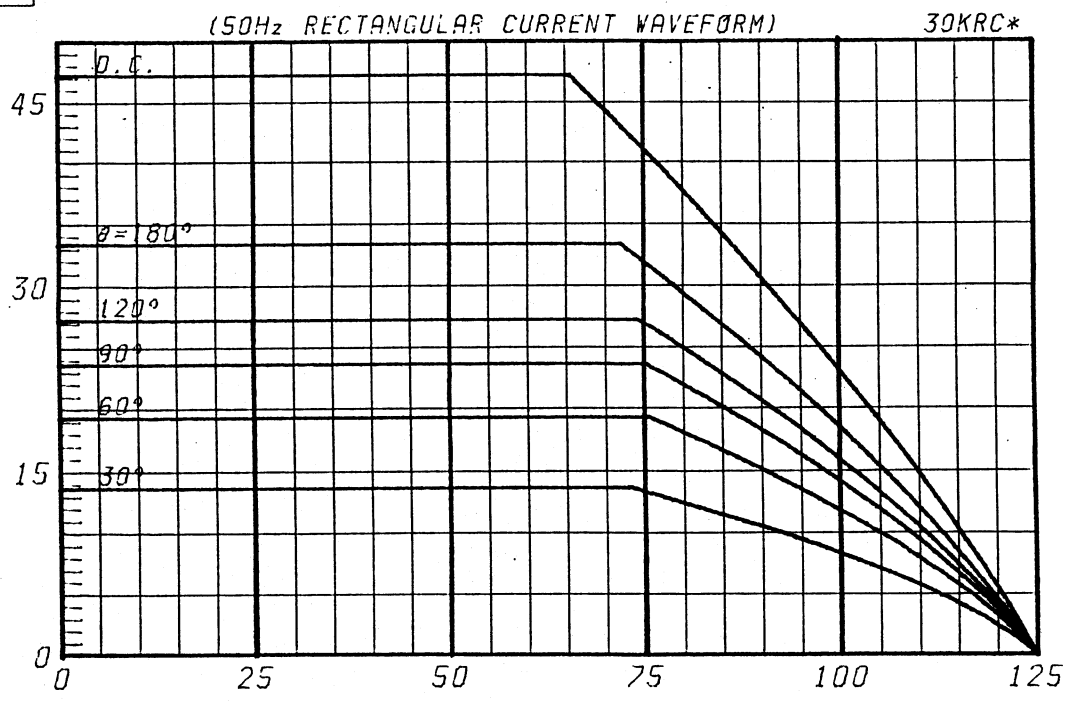
CASE TEMPERATURE (°C)

ケース温度 （℃）



平均オン電流 － ケース温度定格
（方形波 ５０Ｈｚ）
AVERAGE ON-STATE CURRENT VS. CASE TEMPERATURE

(50Hz RECTANGULAR CURRENT WAVEFORM) 30KRC*

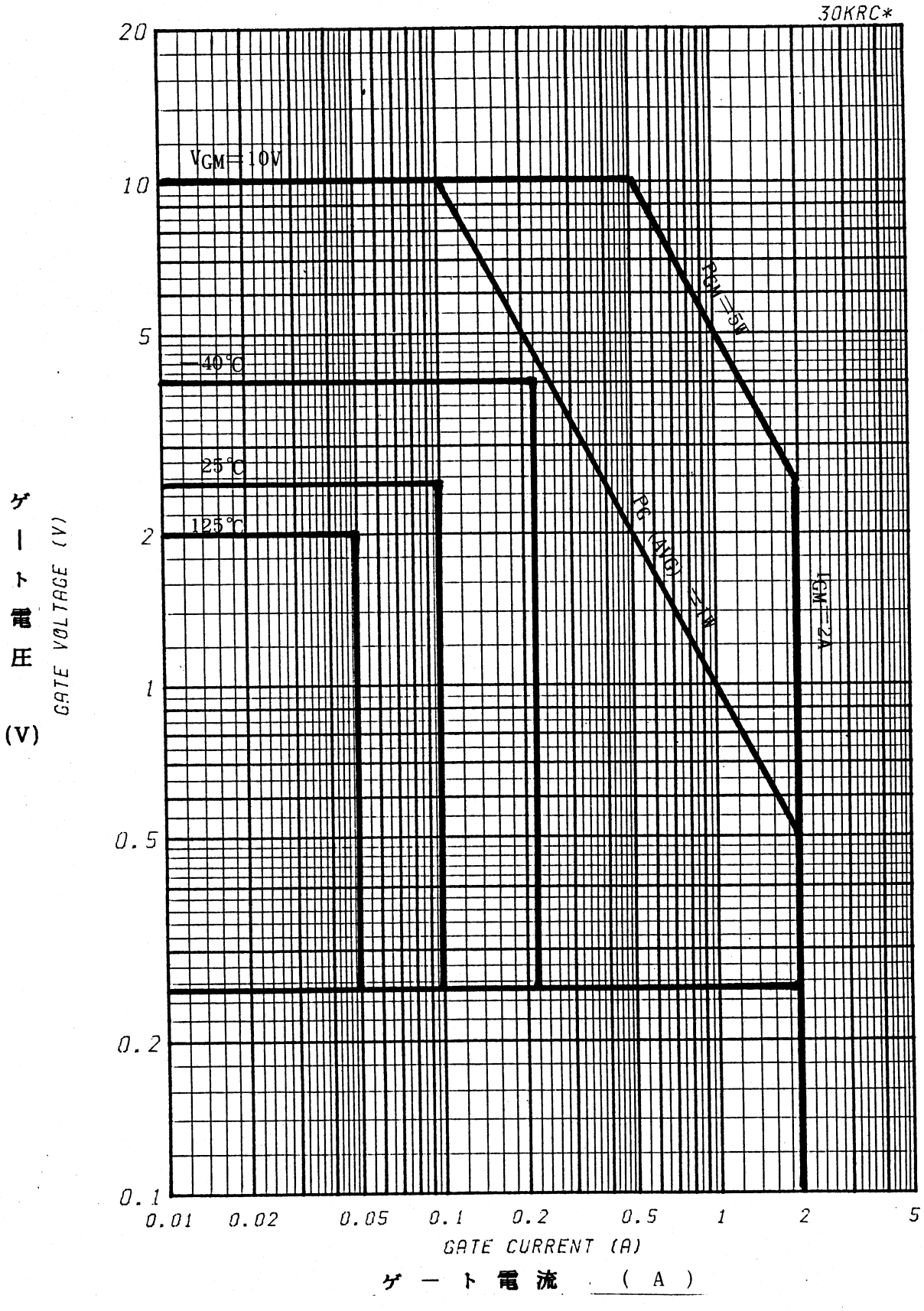


平均オン電流 （A） AVERAGE ON-STATE CURRENT (A)

CASE TEMPERATURE (°C)

ケース温度 （℃）

ゲート定格とゲート特性
GATE RATINGS & CHARACTERISTICS



サージオン電流定格
SURGE CURRENT RATINGS