

To all our customers

Regarding the change of names mentioned in the document, such as Mitsubishi Electric and Mitsubishi XX, to Renesas Technology Corp.

The semiconductor operations of Hitachi and Mitsubishi Electric were transferred to Renesas Technology Corporation on April 1st 2003. These operations include microcomputer, logic, analog and discrete devices, and memory chips other than DRAMs (flash memory, SRAMs etc.) Accordingly, although Mitsubishi Electric, Mitsubishi Electric Corporation, Mitsubishi Semiconductors, and other Mitsubishi brand names are mentioned in the document, these names have in fact all been changed to Renesas Technology Corp. Thank you for your understanding. Except for our corporate trademark, logo and corporate statement, no changes whatsoever have been made to the contents of the document, and these changes do not constitute any alteration to the contents of the document itself.

Note : Mitsubishi Electric will continue the business operations of high frequency & optical devices and power devices.

Renesas Technology Corp.
Customer Support Dept.
April 1, 2003

CR5AS

MEDIUM POWER USE
NON-INSULATED TYPE, GLASS PASSIVATION TYPE

ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
IRRM	Repetitive peak reverse current	T _J =125°C, V _{RRM} applied, R _{GK} =220Ω	—	—	2.0	mA
IDRM	Repetitive peak off-state current	T _J =125°C, V _{DRM} applied, R _{GK} =220Ω	—	—	2.0	mA
V _{TM}	On-state voltage	T _c =25°C, I _{TM} =15A, instantaneous value	—	—	1.8	V
V _{GT}	Gate trigger voltage	T _J =25°C, V _D =6V, I _T =0.1A	—	—	0.8	V
V _{GD}	Gate non-trigger voltage	T _J =125°C, V _D =1/2V _{DRM} , R _{GK} =220Ω	0.1	—	—	V
I _{GT}	Gate trigger current	T _J =25°C, V _D =6V, I _T =0.1A	1	—	200*3	μA
I _H	Holding current	T _J =25°C, V _D =12V, R _{GK} =220Ω	—	3.5	—	mA
R _{th} (j-c)	Thermal resistance	Junction to case *2	—	—	3.0	°C/W

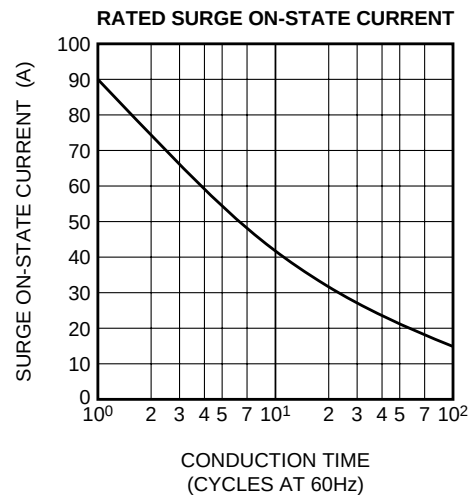
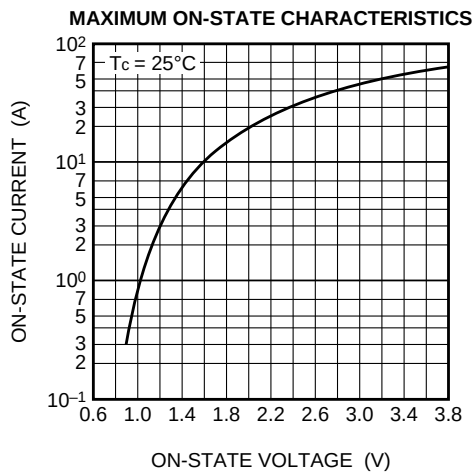
*2. The method point for case temperature is at anode tab.

*3. If special values of I_{GT} are required, choose at least two items from those listed in the table below. (Example: AB, BD)

Item	A	B	C	D
I _{GT} (μA)	1 ~ 30	20 ~ 50	40 ~ 100	80 ~ 200

The above values do not include the current flowing through the 220Ω resistance between the gate and cathode.

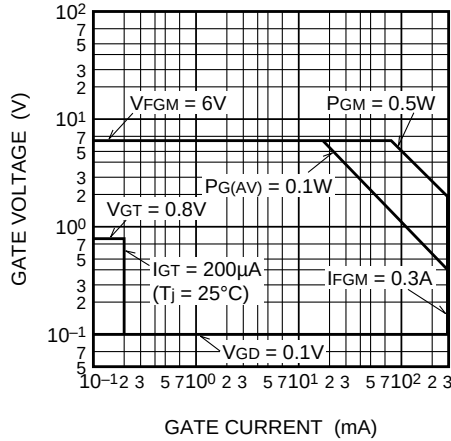
PERFORMANCE CURVES



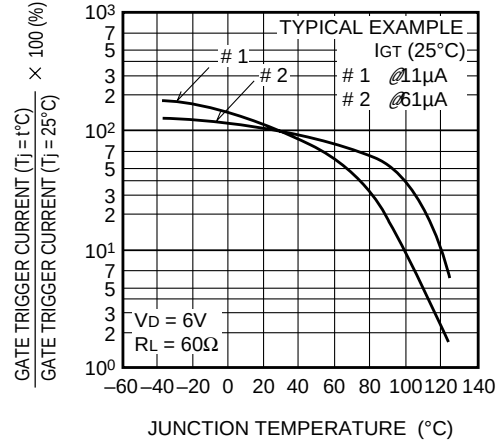
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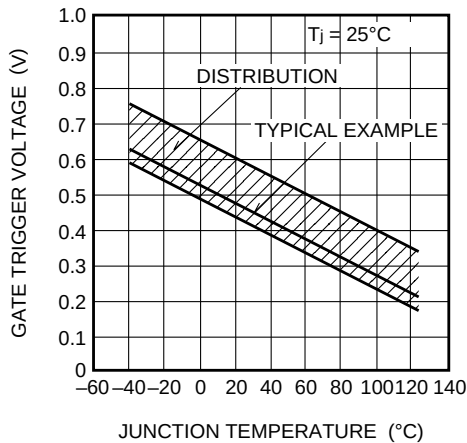
GATE CHARACTERISTICS



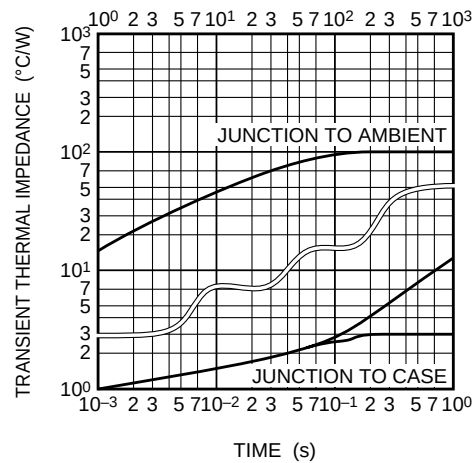
GATE TRIGGER CURRENT VS. JUNCTION TEMPERATURE



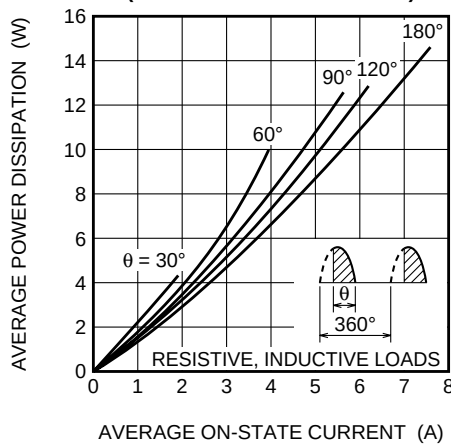
GATE TRIGGER VOLTAGE VS. JUNCTION TEMPERATURE



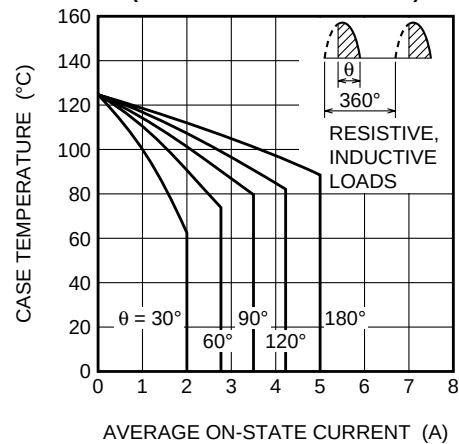
MAXIMUM TRANSIENT THERMAL IMPEDANCE CHARACTERISTICS



MAXIMUM AVERAGE POWER DISSIPATION (SINGLE-PHASE HALF WAVE)



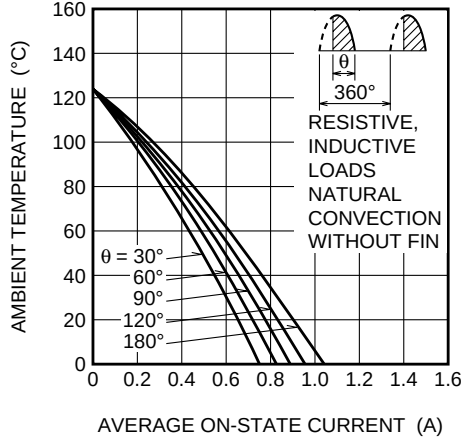
ALLOWABLE CASE TEMPERATURE VS. AVERAGE ON-STATE CURRENT (SINGLE-PHASE HALF WAVE)



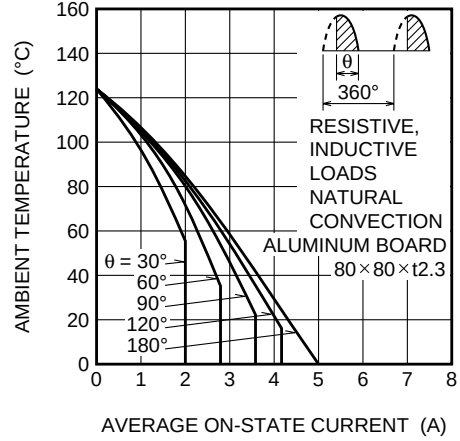
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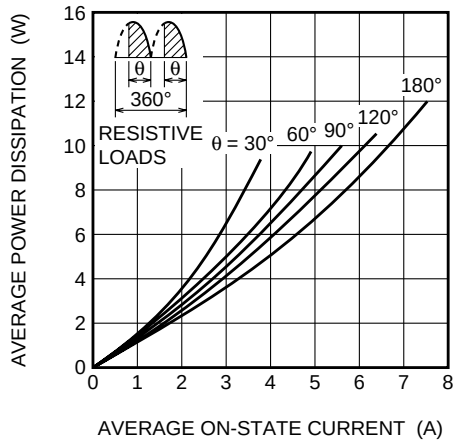
ALLOWABLE AMBIENT TEMPERATURE VS.
AVERAGE ON-STATE CURRENT
(SINGLE-PHASE HALF WAVE)



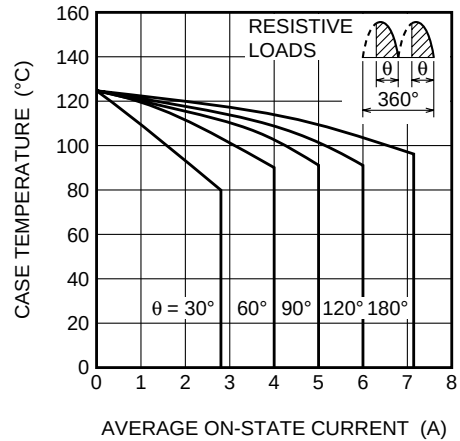
ALLOWABLE AMBIENT TEMPERATURE VS.
AVERAGE ON-STATE CURRENT
(SINGLE-PHASE HALF WAVE)



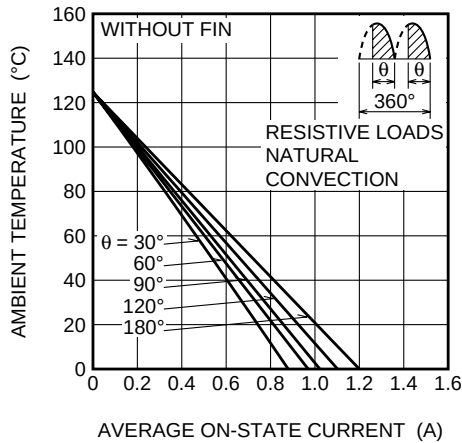
MAXIMUM AVERAGE POWER DISSIPATION
(SINGLE-PHASE FULL WAVE)



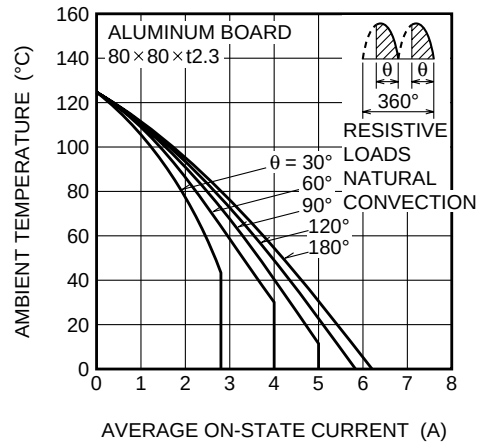
ALLOWABLE CASE TEMPERATURE VS.
AVERAGE ON-STATE CURRENT
(SINGLE-PHASE FULL WAVE)



ALLOWABLE AMBIENT TEMPERATURE VS.
AVERAGE ON-STATE CURRENT
(SINGLE-PHASE FULL WAVE)



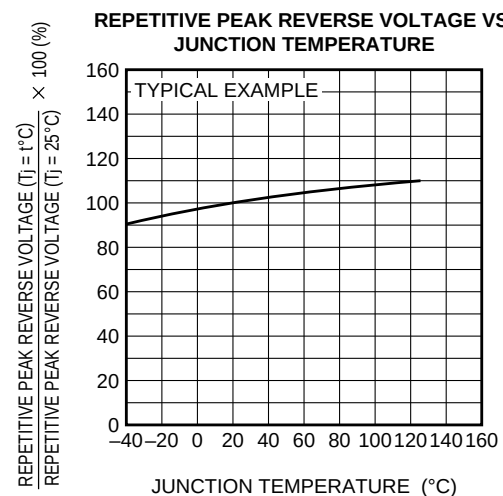
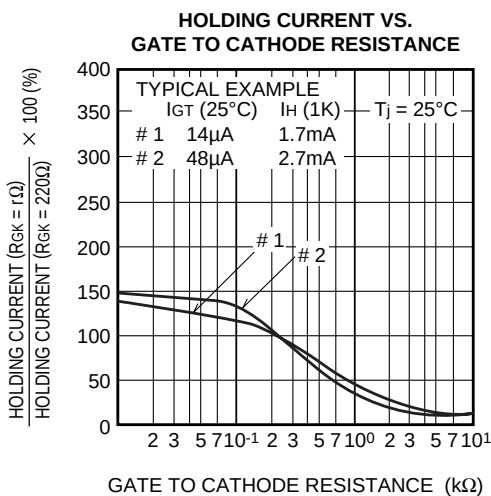
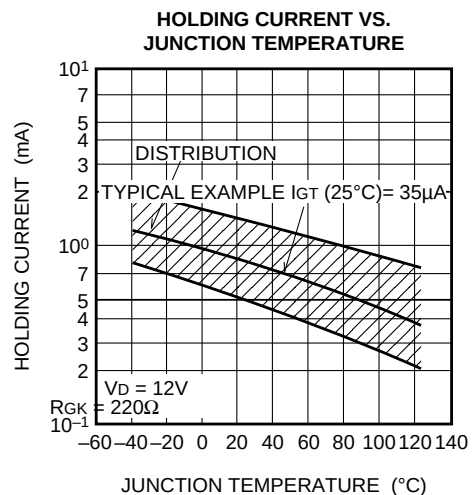
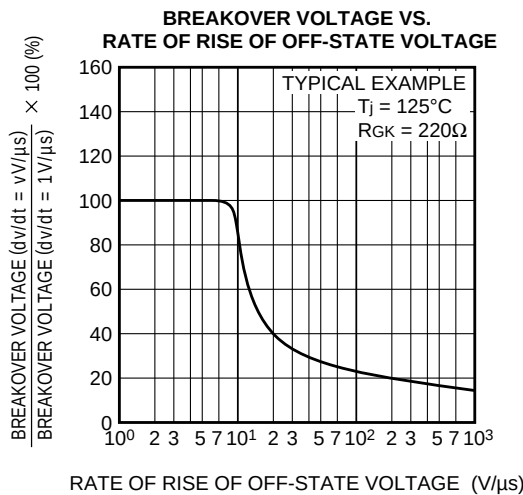
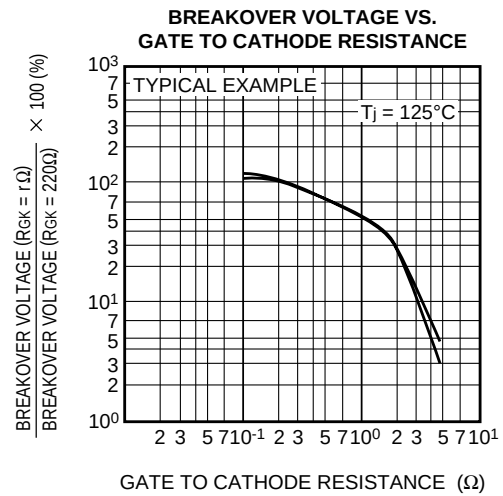
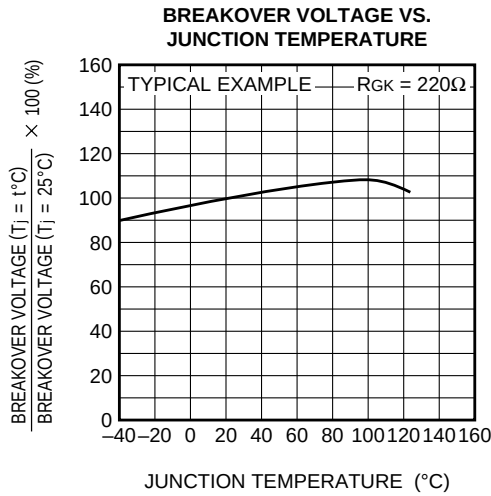
ALLOWABLE AMBIENT TEMPERATURE VS.
AVERAGE ON-STATE CURRENT
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