

**RSF05G1-1P,RSF05G1-3P,RSF05G1-5P**

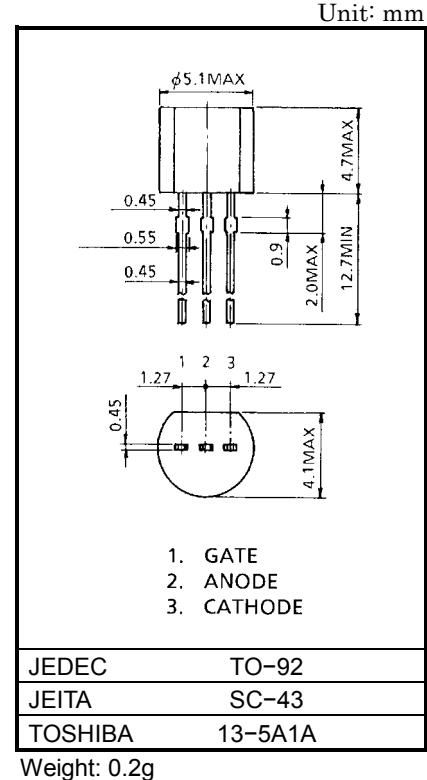
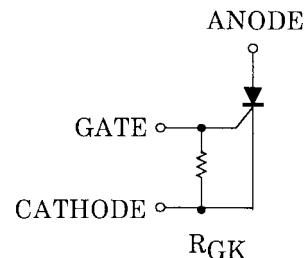
## LOW POWER SWITCHING AND CONTROL APPLICATIONS

- Repetitive Peak Off-State Voltage :  $V_{DRM} = 400V$
- Repetitive Peak Reverse Voltage :  $V_{RRM} = 400V$
- Average On-State Current :  $I_T(AV) = 500mA$
- Plastic Mold Type
- Reduce a Quantity of Parts and Manufacturing Process Because of Built-in RGK :  $RGK = 1k\Omega, 2.7k\Omega, 5.1k\Omega$  (Typical)

**MAXIMUM RATINGS**

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage	$V_{DRM}$ $V_{RRM}$	400	V
		400	
		400	
Non-Repetitive Peak Reverse Voltage (Non-Repetitive < 5ms, $T_j = 0\sim125^\circ C$ )	$V_{DSM}$	500	V
		500	
		500	
Average On-State Current (Half Sine Waveform)	$I_T(AV)$	500	mA
R.M.S. On-State Current	$I_T(RMS)$	800	mA
Peak One Cycle Surge On-State Current (Non-Repetitive)	$I_{TSM}$	9 (50Hz)	A
		10 (60Hz)	
$I^2t$ Limit Value	$I^2t$	0.4	$A^2s$
Critical Rate of Rise of On-State Current	$di / dt$	10	$A / \mu s$
Peak Gate Power Dissipation	$P_{GM}$	0.1	W
Average Gate Power Dissipation	$P_{G(AV)}$	0.01	W
Peak Forward Gate Voltage	$V_{FGM}$	3.5	V
Peak Reverse Gate Voltage	$V_{RGM}$	-5	V
Peak Forward Gate Current	$I_{GM}$	125	mA
Junction Temperature	$T_j$	-40~125	$^\circ C$
Storage Temperature	$T_{stg}$	-40~125	$^\circ C$

Note:  $di / dt$  Test Condition,  $i_G = 5mA$ ,  $t_{gw} = 10\mu s$ ,  $t_{gr} \leq 250ns$

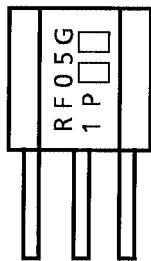
**EQUIVALENT CIRCUIT**

## ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT	
Repetitive Peak Off-State Current and Repetitive Peak Reverse Current	$I_{DRM}$ $I_{RRM}$	$V_{DRM} = V_{RRM}$ = Rated	—	—	10	μA	
Peak On-State Voltage	$V_{TM}$	$I_{TM} = 1A$	—	—	1.5	V	
Gate Trigger Voltage	$V_{GT}$		0.4	—	0.8	V	
Gate Trigger Current	RSF05G1-1P	$V_D = 6V$ , $R_L = 100\Omega$	400	700	1000	μA	
	RSF05G1-3P		150	250	400		
	RSF05G1-5P		80	160	250		
	RSF05G1-1P		—	—	6		
Holding Current	RSF05G1-3P	$I_{TM} = 1A$ , $V_D = 6V$	—	—	3	mA	
	RSF05G1-5P		—	—	2		
	RSF05G1-1P		700	1000	1300		
Resistor Between Gate and Cathode	RSF05G1-3P	RGK	1890	2700	3510	Ω	
	RSF05G1-5P		3570	5100	6630		
	RSF05G1-1P		—	200	—		
Critical Rate of Rise of Off-State Voltage	RSF05G1-3P	dv / dt	—	70	—	V / μs	
	RSF05G1-5P		—	40	—		
	Gate Turn-On Time	$t_{gt}$	$V_D$ = Rated, $i_G$ = 5mA	—	—	1.5	μs
Thermal Resistance	Junction to Lead	$R_{th(j-t)}$	DC	—	—	40	°C / W
	Junction to Ambient	$R_{th(j-a)}$		—	—	180	

## MARKING

Example : It is mark of RSF05G1-1P



Lot Number



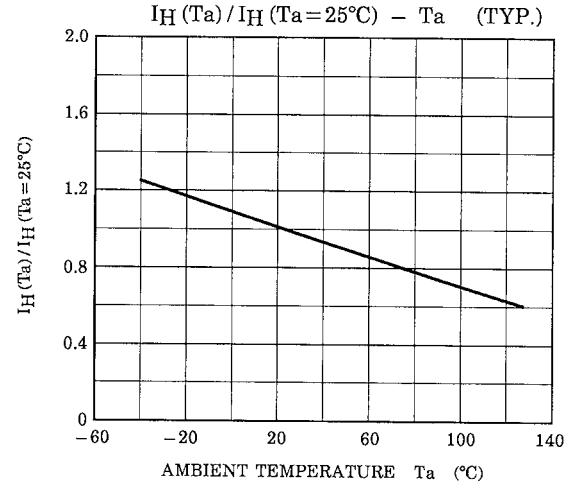
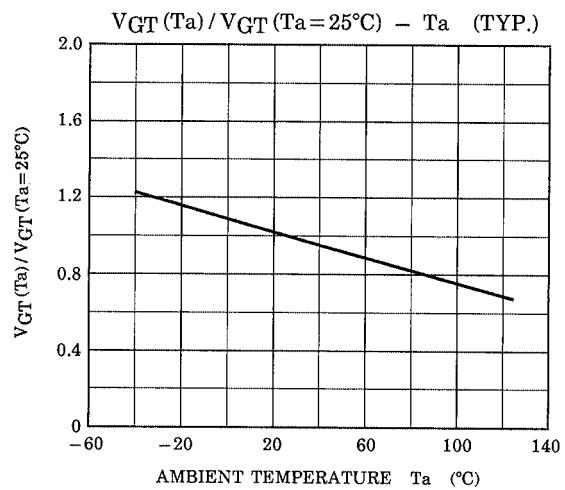
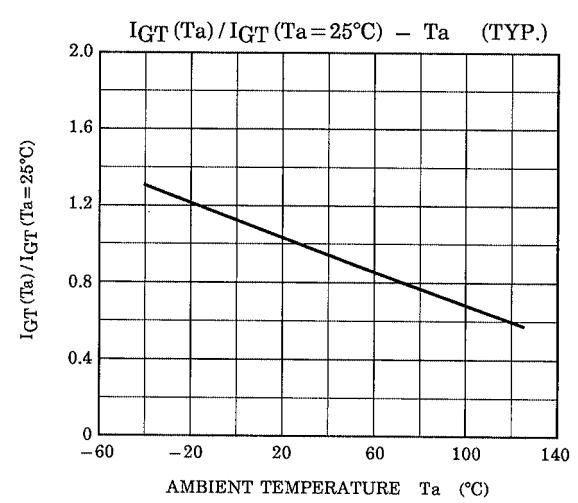
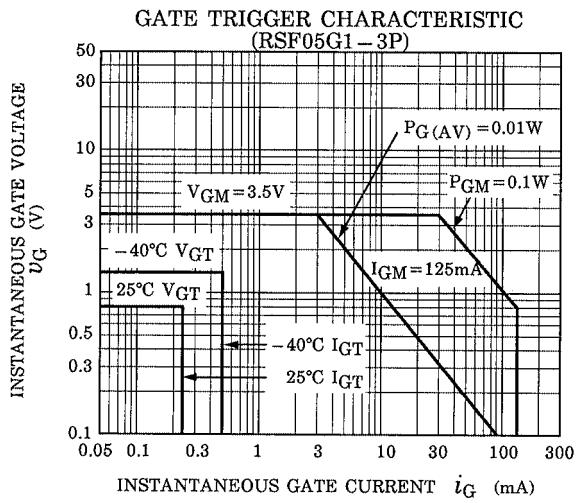
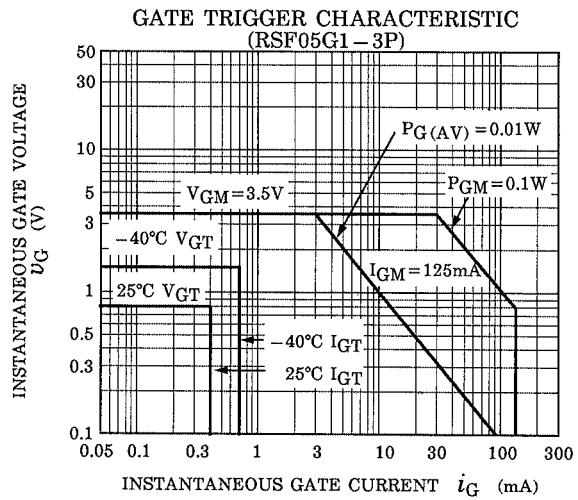
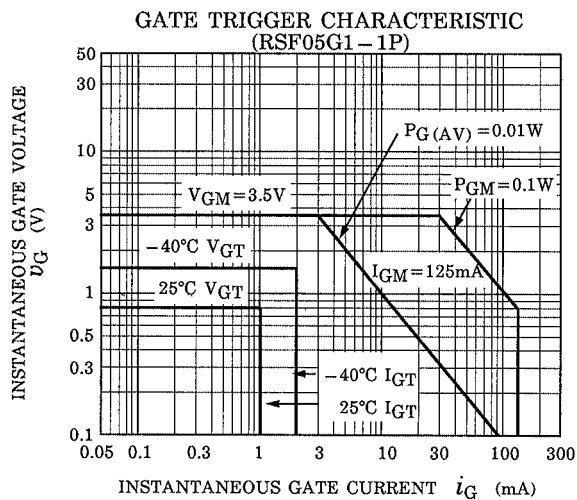
Month (Starting from Alphabet A)

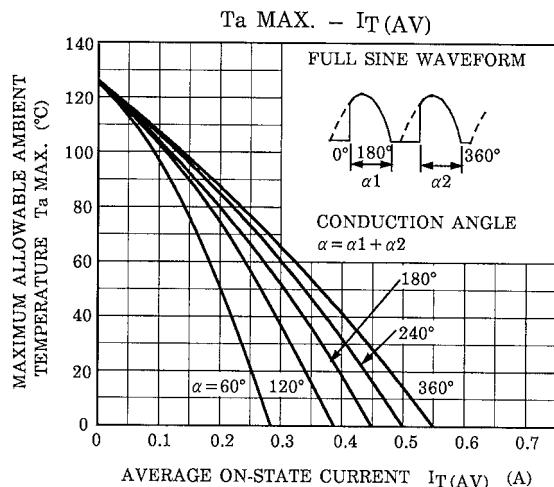
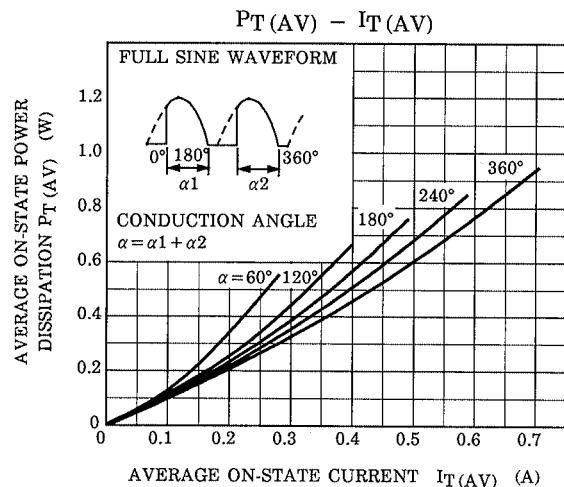
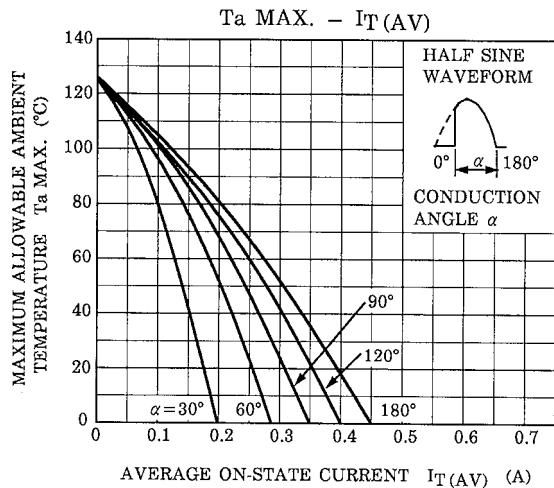
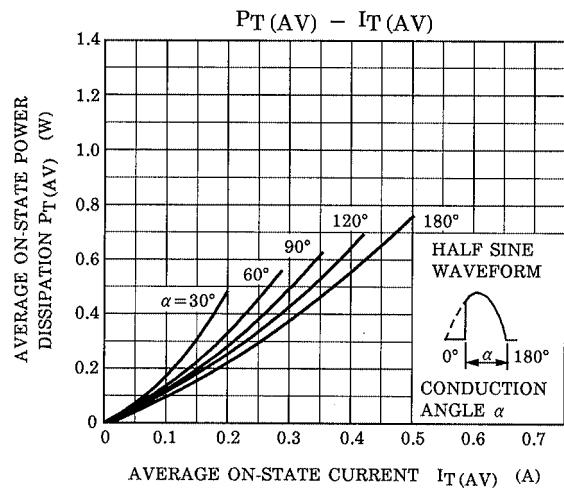
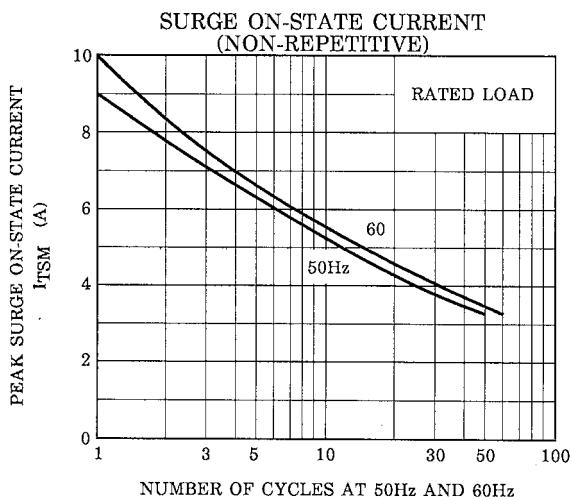
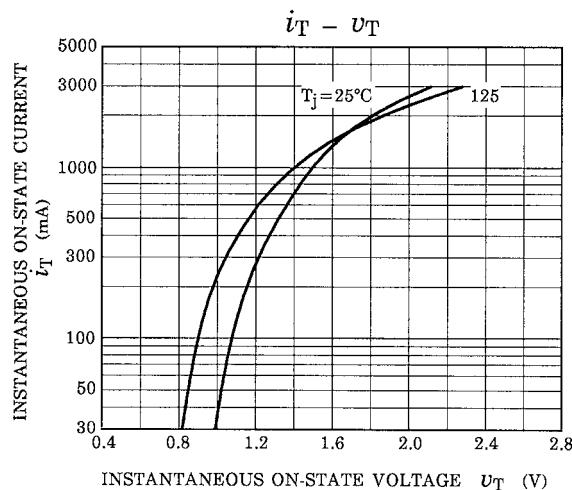
Year (Last Decimal Digit of the Current Year)

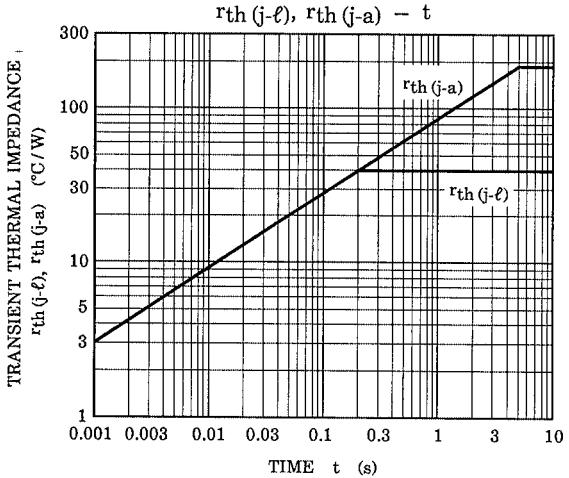
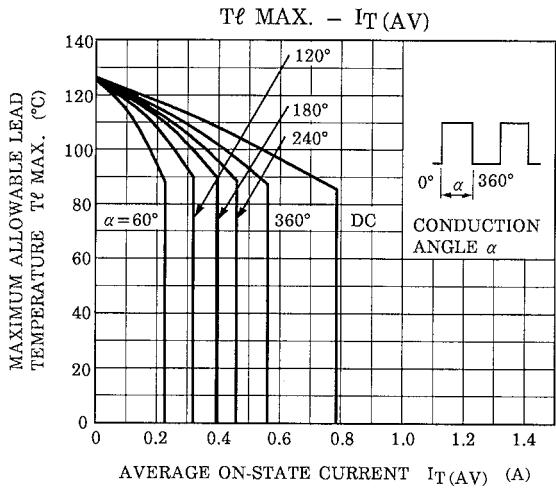
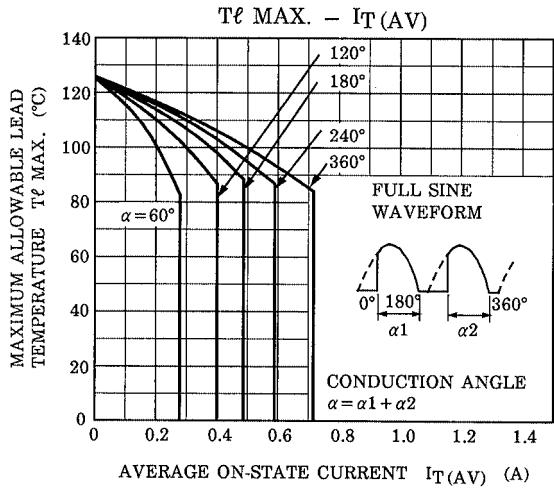
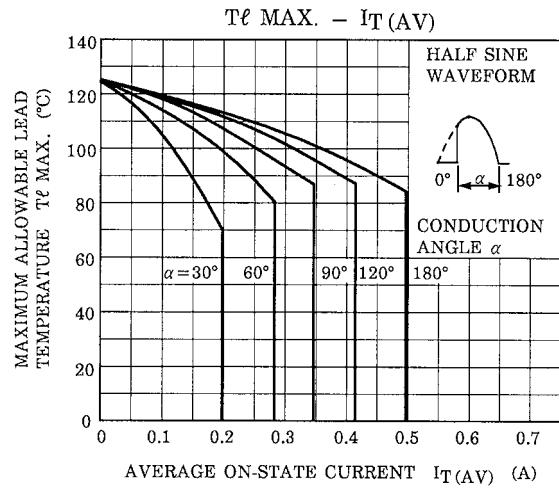
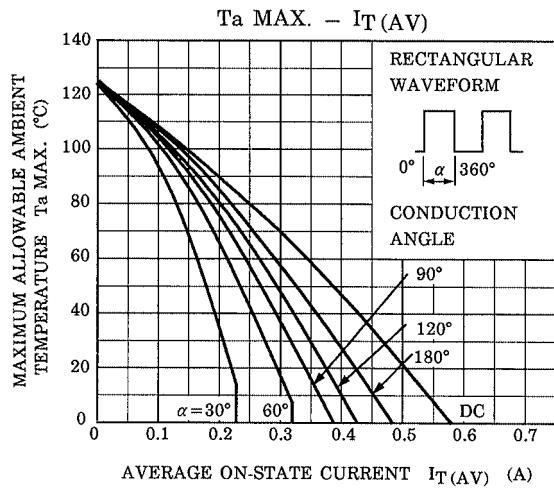
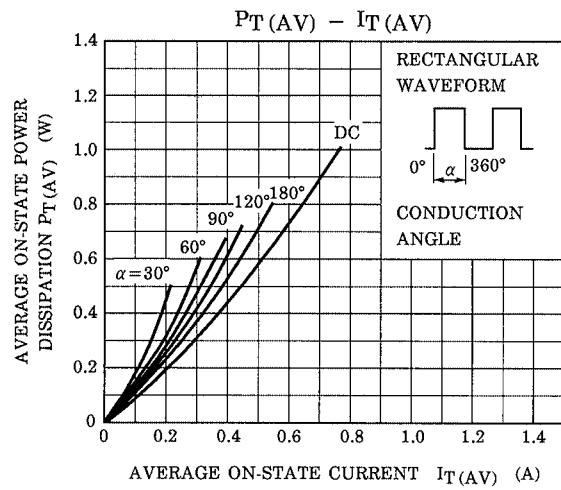
Example 8A : January 1998

8B : February 1998

8L : December 1998







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