

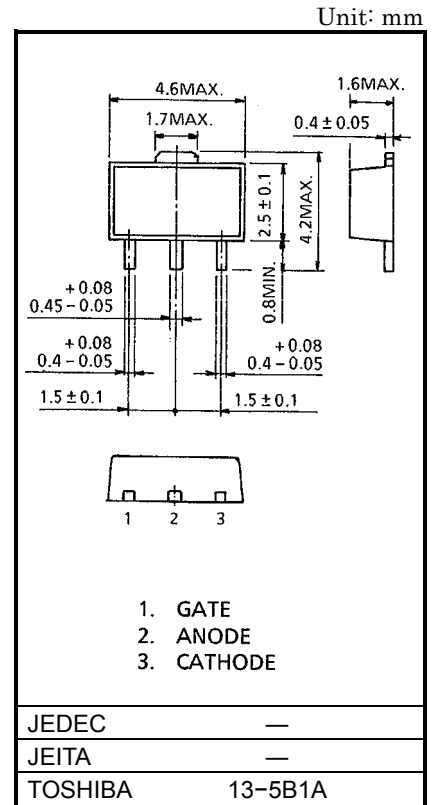
## URSF05G49-1P,URSF05G49-3P,URSF05G49-5P

### 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 :  $I_T(AV) = 500mA$
- Reduce a Quantity of Parts and Manufacturing Process Because of Built-in RGK :  $R_{GK} = 1k\Omega, 2.7k\Omega, 5.1k\Omega$  (Typ.)

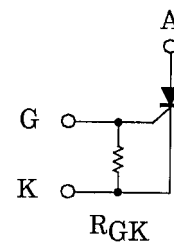
### MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATINGS	UNIT
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage	$V_{DRM}$ $V_{RRM}$	400	V
Non-Repetitive Peak Reverse Voltage (Non-Repetitive<5ms, $T_j = 0\sim 125^\circ C$ )	$V_{RSM}$	500	V
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 (Note 1)	$di / dt$	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 Range	$T_{stg}$	-40~125	$^\circ C$



Weight: 0.2 g

### EQUIVALENT CIRCUIT



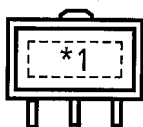
NOTE 1:  $di / dt$  Test condition  
 $i_G = 5mA, t_{gw} = 10\mu s,$   
 $t_{gr} \leq 250ns$

### ELECTRICAL CHARACTERISTICS (Ta = 25°C)

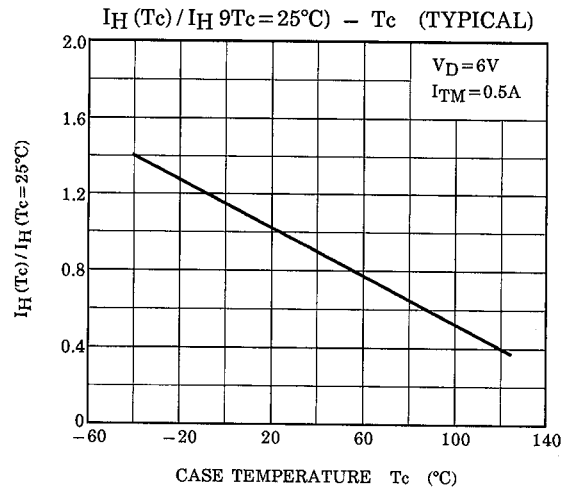
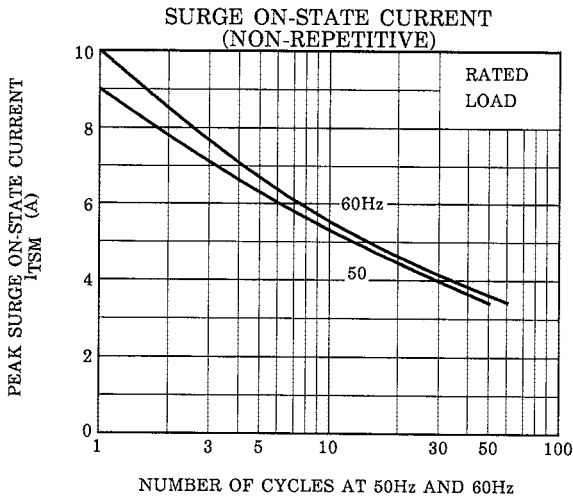
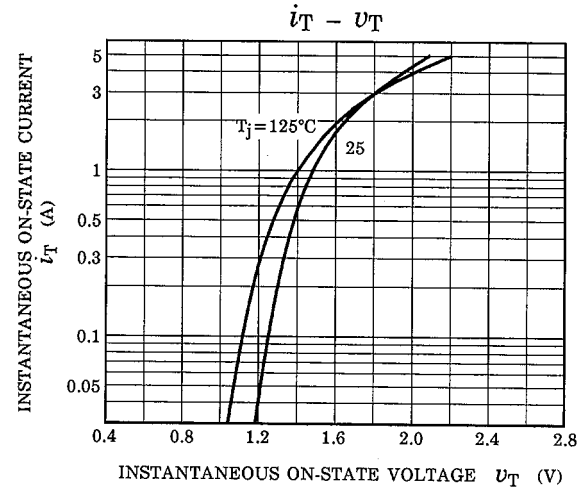
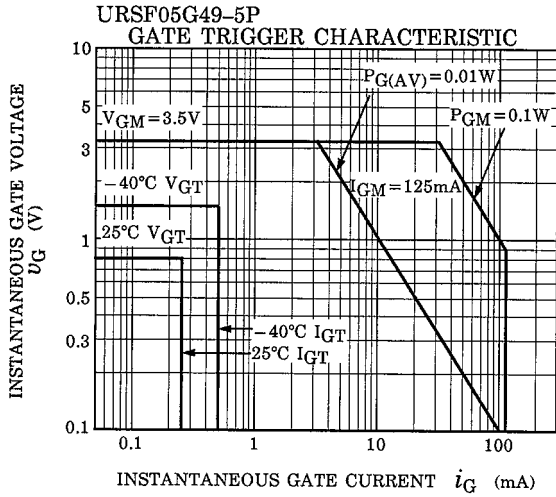
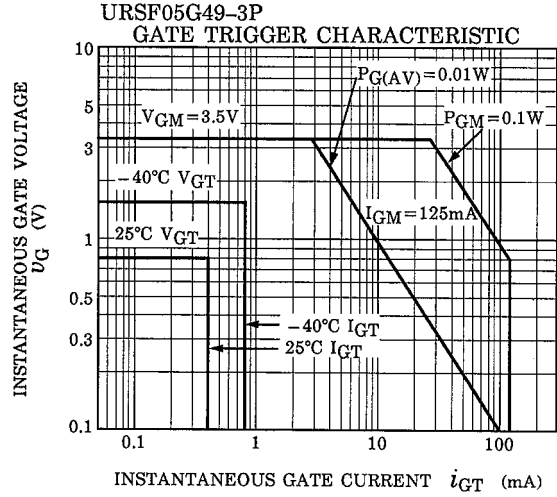
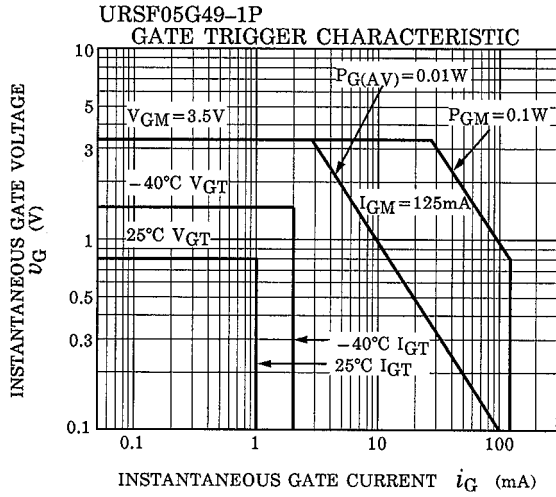
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT	
Repetitive Peak Off-State Current and Repetitive Peak Reverse Current		$I_{DRM}$ $I_{RRM}$	$V_{DRM} = V_{RRM} = \text{Rated}$	—	—	10	$\mu\text{A}$	
Peak On-State Voltage		$V_{TM}$	$I_{TM} = 1\text{A}$	—	—	1.5	V	
Gate Trigger Voltage		$V_{GT}$	$V_D = 6\text{V}, R_L = 100\Omega$	—	—	0.8	V	
Gate Trigger Current	URSF05G49-1P	$I_{GT}$		250	700	1000	$\mu\text{A}$	
	URSF05G49-3P			100	250	400		
	URSF05G49-5P			50	160	250		
Holding Current	URSF05G49-1P	$I_H$	$I_{TM} = 500\text{mA}, V_D = 6\text{V}$		—	—	6	mA
	URSF05G49-3P				—	—	3	
	URSF05G49-5P				—	—	2	
Resistor Between Gate and Cathode	URSF05G49-1P	$R_{GK}$	—		700	1000	1300	$\Omega$
	URSF05G49-3P				1890	2700	3510	
	URSF05G49-5P				3570	5100	6630	
Critical Rate of Rise of Off-State Voltage	URSF05G49-1P	$dV/dt$	$V_{DRM} = \text{Rated}, \text{Exponential Rise}$		—	200	—	V / $\mu\text{s}$
	URSF05G49-3P				—	70	—	
	URSF05G49-5P				—	40	—	
Turn-On Time		$t_{gt}$	$V_D = \text{Rated}, i_G = 5\text{mA}$	—	—	1.5	$\mu\text{s}$	
Thermal Resistance		$R_{th(j-a)}$	Junction to Ambient	—	—	70	$^{\circ}\text{C} / \text{W}$	

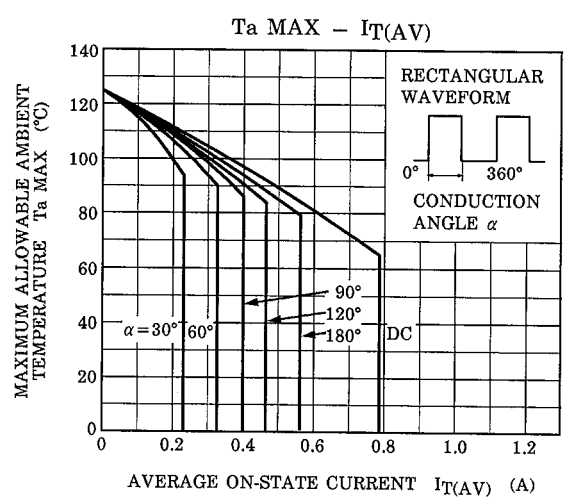
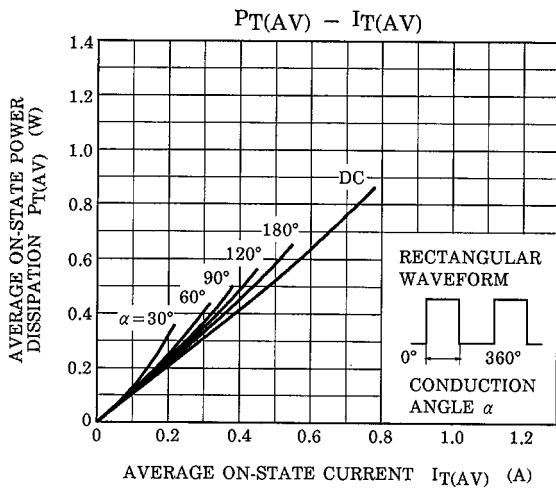
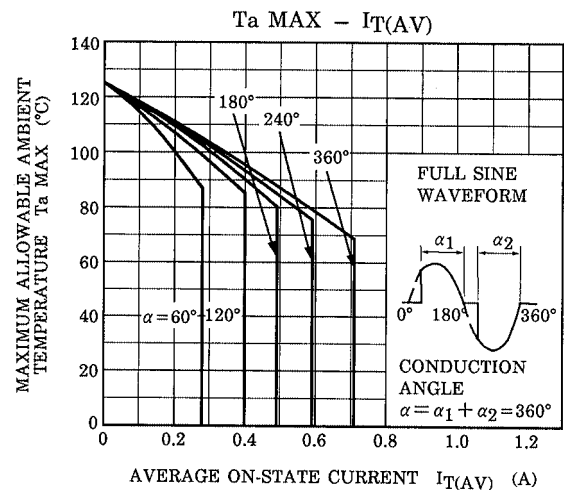
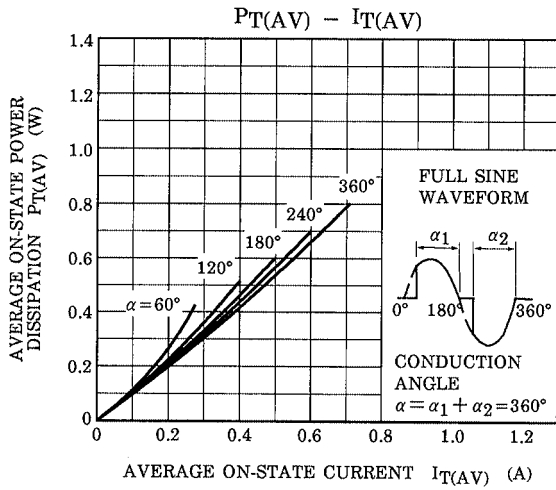
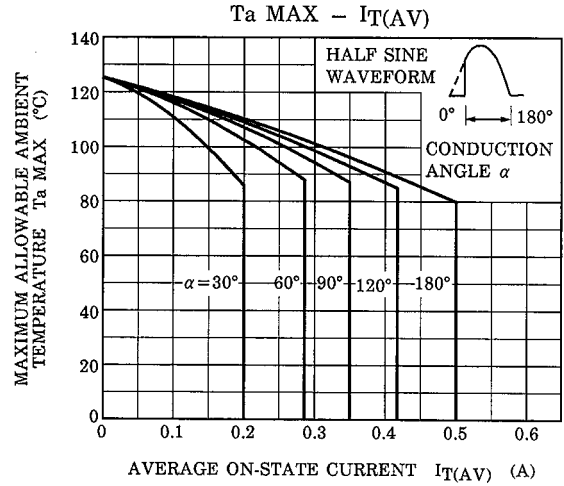
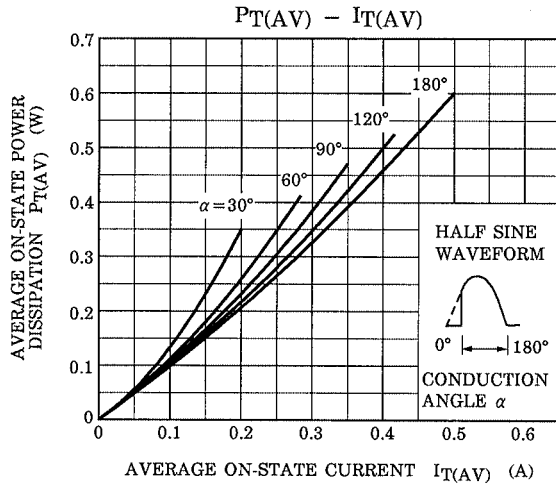
Note: Thermal Resistance Test Condition  
Use 0.6×30×30mm Alumina Plate

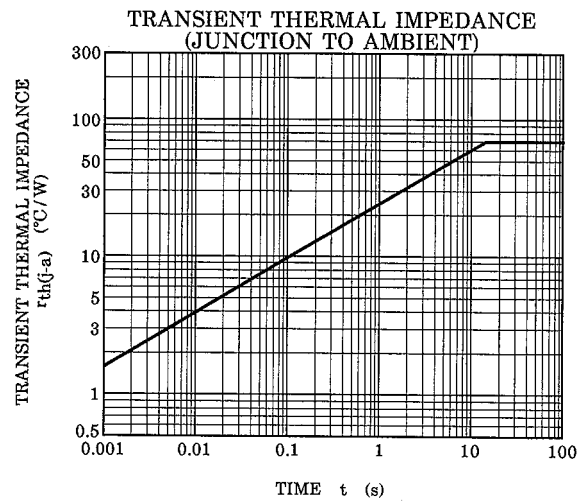
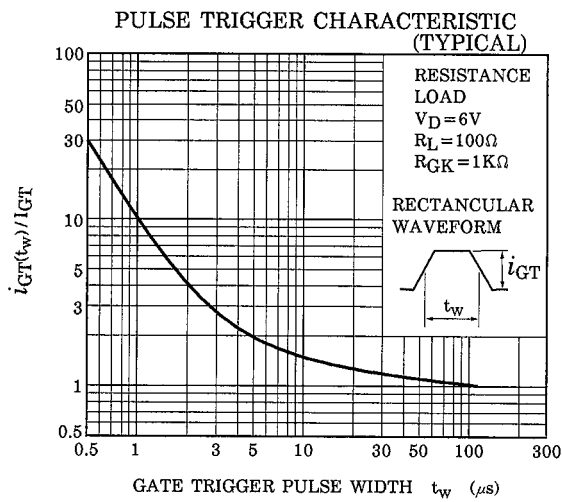
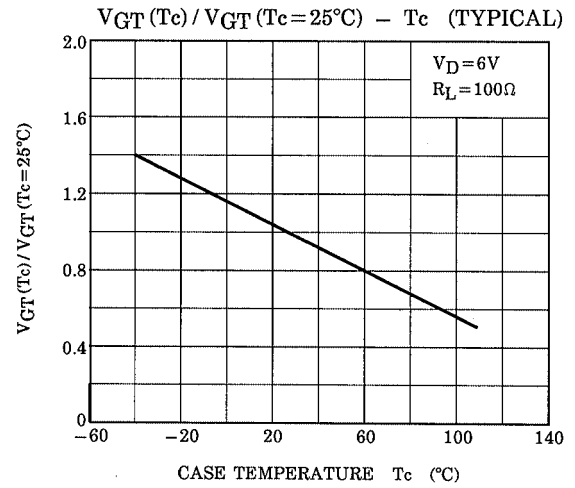
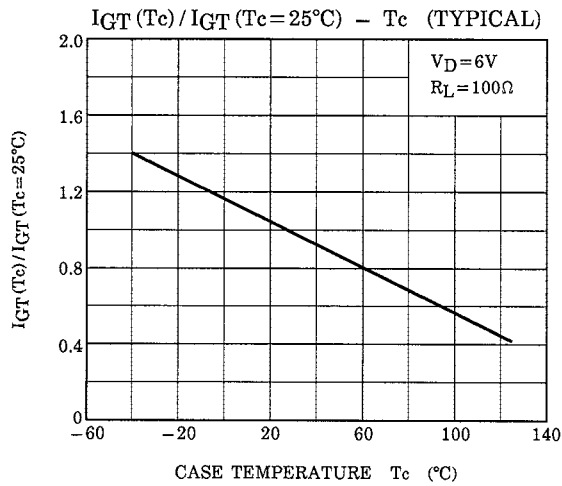
### MARK



NUMBER	TYPE	MARK
* 1	URSF05G49-1P	PB
	URSF05G49-3P	PC
	URSF05G49-5P	PD







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