

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

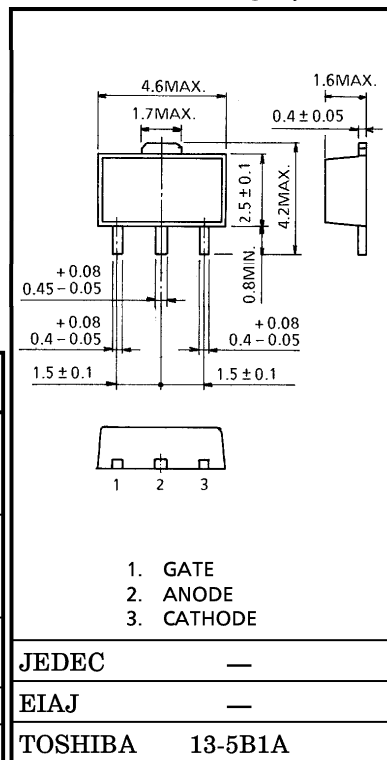
LOW POWER SWITCHING AND CONTROL APPLICATIONS

Unit in mm

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

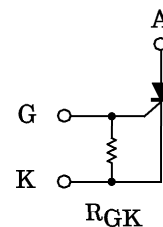
MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	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, $T_j = 0 \sim 125^\circ\text{C}$)	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) 10 (60Hz)	A
I^2t Limit Value	I^2t	0.4	A ² s
Critical Rate of Rise of On-State Current (Note 1)	di/dt	10	A / μs
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	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-40~150	$^\circ\text{C}$



Weight : 0.2g

EQUIVALENT CIRCUIT



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

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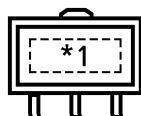
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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

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	μA
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	μA
	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	Ω
	URSF05G49-3P			1890	2700	3510	
	URSF05G49-5P			3570	5100	6630	
Critical Rate of Rise of Off-State Voltage	URSF05G49-1P	dv / dt	$V_{DRM} = \text{Rated},$ Exponential Rise	—	200	—	V / μs
	URSF05G49-3P			—	70	—	
	URSF05G49-5P			—	40	—	
Turn-On Time		t_{gt}	$V_D = \text{Rated}, i_G = 5\text{mA}$	—	—	1.5	μs
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

