

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

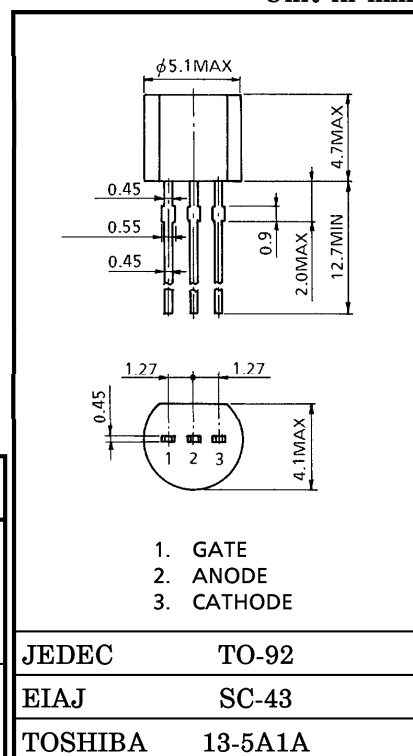
LOW POWER SWITCHING AND CONTROL APPLICATIONS

Unit in mm

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

MAXIMUM RATINGS

CHARACTERISTIC		SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage	RSF05G1-1P	V_{DRM} V_{RRM}	400	V
	RSF05G1-3P		400	
	RSF05G1-5P		400	
Non-Repetitive Peak Reverse Voltage (Non-Repetitive < 5ms, $T_j = 0 \sim 125^\circ C$)	RSF05G1-1P	V_{DSM}	500	V
	RSF05G1-3P		500	
	RSF05G1-5P		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	$^\circ C$



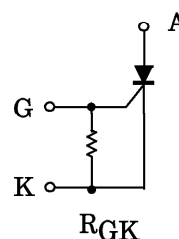
JEDEC TO-92

EIAJ SC-43

TOSHIBA 13-5A1A

Weight : 0.2g

EQUIVALENT CIRCUIT

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

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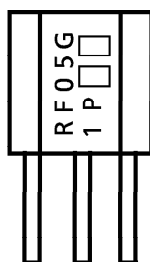
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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

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} =Rated	—	—	10	μA
Peak On-State Voltage		V _{TM}	I _{TM} =1A	—	—	1.5	V
Gate Trigger Voltage		V _{GT}	V _D =6V, R _L =100Ω	0.4	—	0.8	V
Gate Trigger Current	RSF05G1-1P	I _{GT}		400	700	1000	μA
	RSF05G1-3P			150	250	400	
	RSF05G1-5P			80	160	250	
Holding Current	RSF05G1-1P	I _H	I _{TM} =1A, V _D =6V	—	—	6	mA
	RSF05G1-3P			—	—	3	
	RSF05G1-5P			—	—	2	
Resistor Between Gate and Cathode	RSF05G1-1P	R _{GK}	—	700	1000	1300	Ω
	RSF05G1-3P			1890	2700	3510	
	RSF05G1-5P			3570	5100	6630	
Critical Rate of Rise of Off-State Voltage	RSF05G1-1P	dv / dt	V _{DRM} =Rated Exponential Rise	—	200	—	V / μs
	RSF05G1-3P			—	70	—	
	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-ℓ)}	DC	—	—	40	°C / W
	Junction to Ambient	R _{th (j-a)}		—	—	180	

MARKING

Example : It is mark of RSF05G1-1P



Lot Number



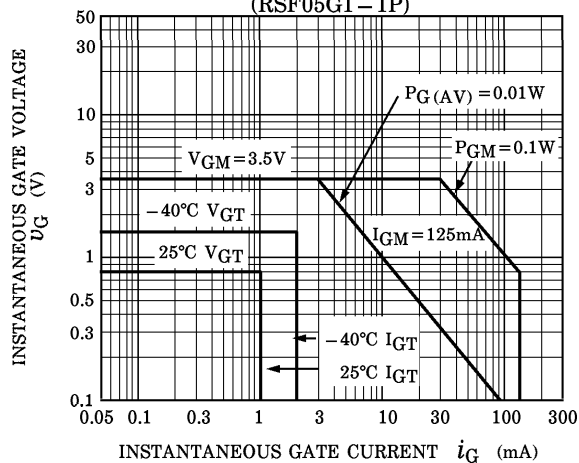
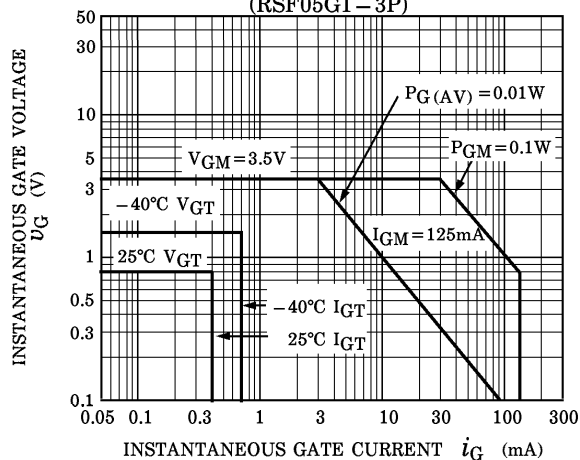
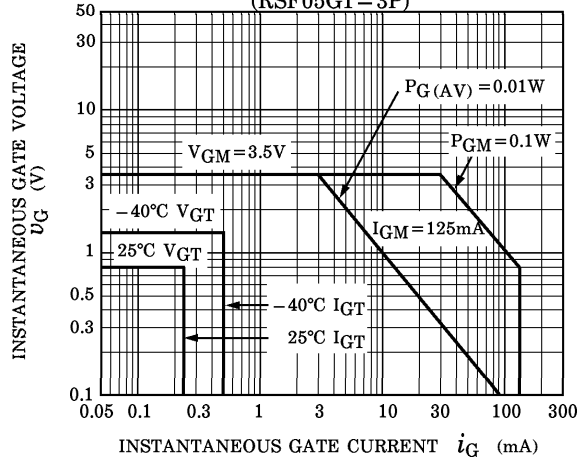
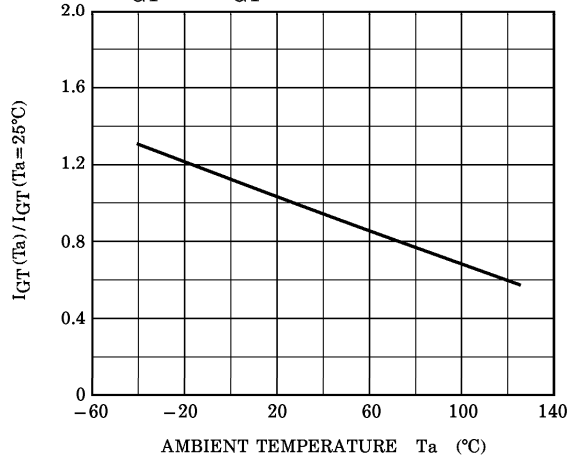
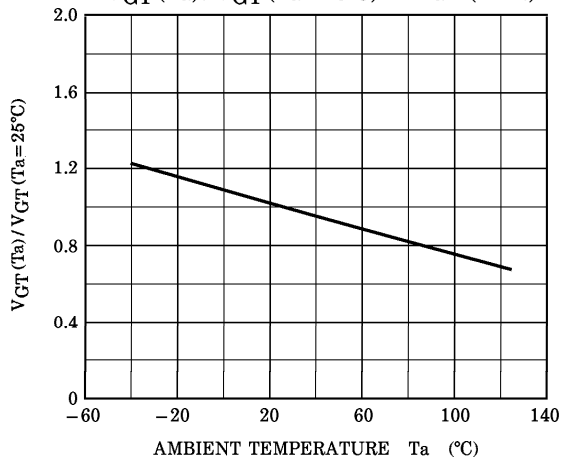
Month (Starting from Alphabet A)

Year (Last Decimal Digit of the Current Year)

Example 8A : January 1998

8B : February 1998

8L : December 1998

GATE TRIGGER CHARACTERISTIC
(RSF05G1-1P)GATE TRIGGER CHARACTERISTIC
(RSF05G1-3P)GATE TRIGGER CHARACTERISTIC
(RSF05G1-3P) $I_{GT}(T_a)/I_{GT}(T_a=25^\circ C) - T_a$ (TYP.) $V_{GT}(T_a)/V_{GT}(T_a=25^\circ C) - T_a$ (TYP.) $I_H(T_a)/I_H(T_a=25^\circ C) - T_a$ (TYP.)