

# S6992

## Condenser Discharge Control Applications

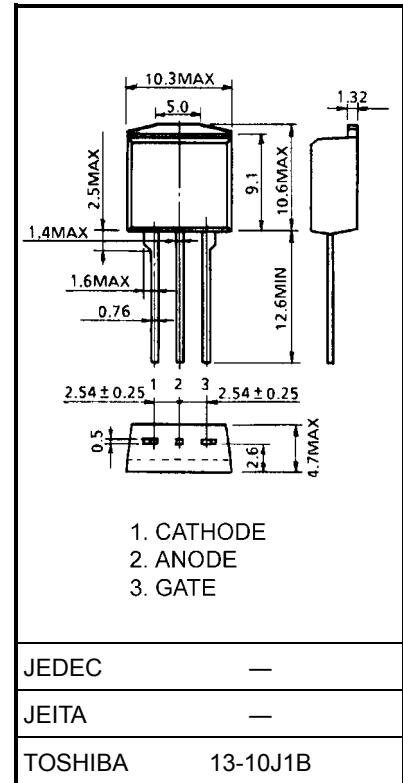
- Critical rate of rise of ON-state current:  $di/dt = 750 \text{ A}/\mu\text{s}$
- Repetitive surge ON-state current:  $I_{TRM} = 500 \text{ A}$  ( $t_w = 2 \mu\text{s}$ )
- Repetitive peak OFF-state voltage:  $V_{DRM} = 800 \text{ V}$
- Gate trigger current:  $I_{GT} = 20 \text{ mA max.}$

## Maximum Ratings

Characteristics	Symbol	Rating	Unit
Repetitive peak OFF-state voltage	$V_{DRM}$	800	V
Repetitive peak surge ON-state current (Note)	$I_{TRM}$	500	A
Critical rate of rise of ON-state current (Note)	$di/dt$	750	$\text{A}/\mu\text{s}$
Peak gate power dissipation	$P_{GM}$	5	W
Average gate power dissipation	$P_G (AV)$	0.5	W
Peak forward gate voltage	$V_{FGM}$	10	V
Peak reverse gate voltage	$V_{RGM}$	-5	V
Peak forward gate current	$I_{GM}$	2	A
Junction temperature	$T_j$	-40~125	$^{\circ}\text{C}$
Storage temperature range	$T_{stg}$	-40~150	$^{\circ}\text{C}$

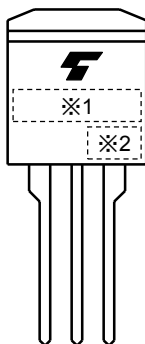
Note:  $V_D \leq 0.8 \times \text{rated}$ ,  $T_c = 85^{\circ}\text{C}$ ,  $i_{gp} \geq 40 \text{ mA}$ ,  $t_{gw} \geq 10 \mu\text{s}$ ,  $t_{gr} \leq 150 \text{ ns}$

Unit: mm



Weight: 1.5 g (typ.)

## Marking



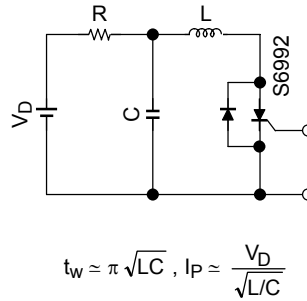
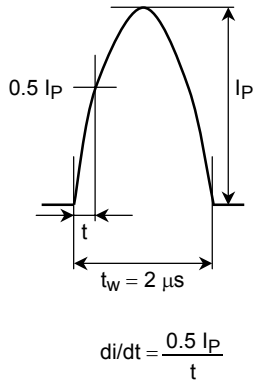
※1	TYPE NAME	S6992	MARK	S6992
※2	Lot Number <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 15px; height: 15px; margin-right: 5px;"></div> <div style="border: 1px solid black; width: 15px; height: 15px; margin-right: 5px;"></div> <div style="margin-left: 5px;">                     Month (starting from alphabet A)                      Year (last decimal digit of the current year)                 </div> </div>		Example 8A: January 1998 8B: February 1998 8L: December 1998	

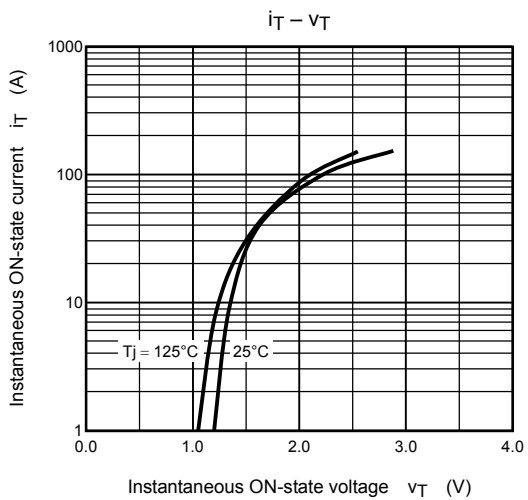
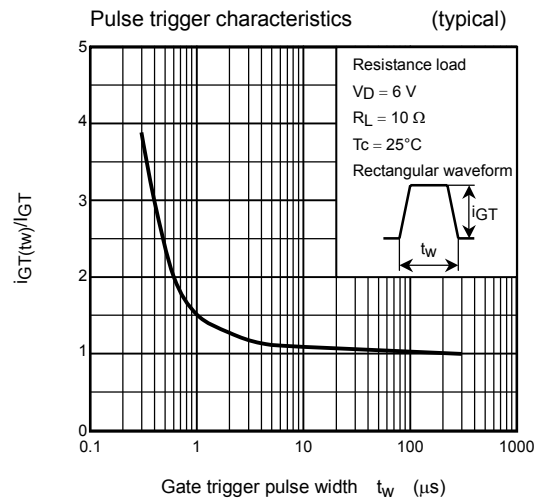
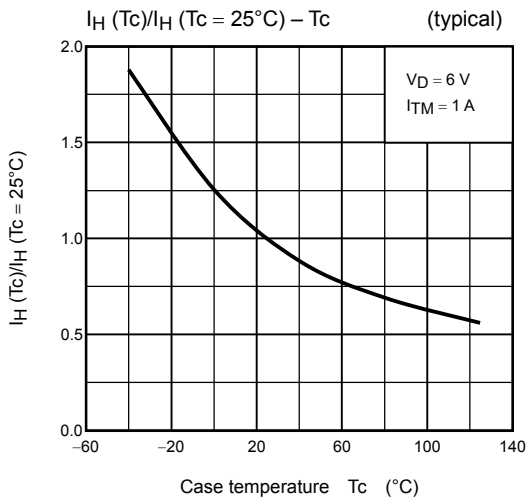
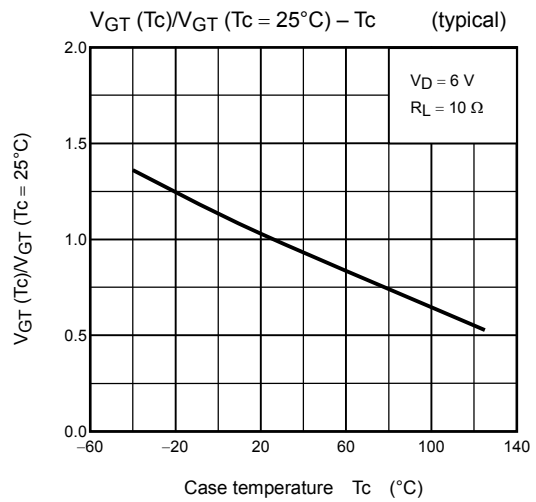
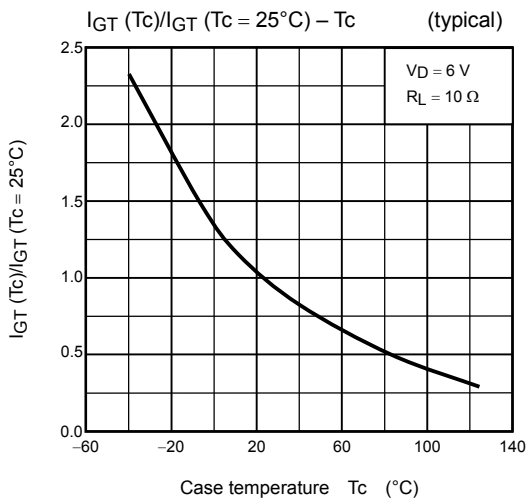
\*: There is no reverse-blocking (reverse voltage) ability.

## Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Repetitive peak OFF-state current	$I_{DRM}$	$V_{DRM} = \text{rated}$	—	—	10	$\mu\text{A}$
Peak ON-state voltage	$V_{TM}$	$I_{TM} = 25 \text{ A}$	—	—	1.5	V
Gate trigger voltage	$V_{GT}$	$V_D = 6 \text{ V}, R_L = 10 \Omega$	—	—	1.0	V
Gate trigger current	$I_{GT}$		—	—	20	mA
Gate non-trigger voltage	$V_{GD}$	$V_D = \text{rated}, T_c = 125^\circ\text{C}$	0.2	—	—	V
Critical rate of rise of OFF-state voltage	$dv/dt$	$V_{DRM} = \text{rated}, T_c = 125^\circ\text{C}$ Exponential rise	—	50	—	$\text{V}/\mu\text{s}$
Holding current	$I_H$	$V_D = 6 \text{ V}, I_{TM} = 1 \text{ A}$	—	—	40	mA
Thermal resistance	$R_{th(j-a)}$	Junction to ambient	—	—	70	$^\circ\text{C}/\text{W}$

### Test Circuit Examples





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