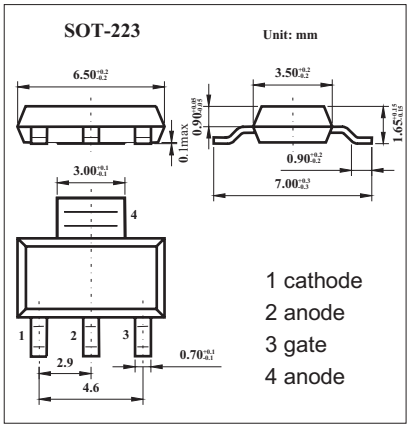
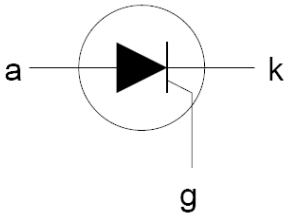
Thyristors logic level
BT169DW



Features

- Designed to be interfaced directly to microcontrollers, logic integrated circuits and other low power gate trigger circuits



Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
repetitive peak off-state voltages	V_{DRM}, V_{RRM}	400	V
average on-state current half sine wave;T_{lead} ≤ 83 ℃	$I_{T(AV)}$	0.63	A
RMS on-state current all conduction angles	$I_{T(RMS)}$	1	A
non-repetitive peak on-state current t = 10 ms	I_{TSM}	8	A
(all conduction angles; T_j = 25℃) t = 8.3 ms		9	A
I^2t for fusing t = 10 ms	I_{2t}	0.32	A^2s
repetitive rate of rise of on-state current after triggering *	dI_T/dt	50	A/μs
peak gate current	I_{GM}	1	A
peak gate voltage	V_{GM}	5	V
peak reverse gate voltage	V_{RGM}	5	V
peak gate power	P_{GM}	2	W
average gate power (over any 20 ms period)	$P_{G(AV)}$	0.1	W
storage temperature	T_{stg}	-40 to 150	℃
junction temperature	T_j	125	℃
thermal resistance from junction to ambient	$R_{th(j-a)}$	156	K/W

* I_{TM} = 2 A; I_G = 10 mA;dI_G/dt = 100 mA/μs

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
gate trigger current	I_{GT}	V_D = 12 V; I_T = 10 mA		50	200	μA
latching current	I_L	V_D = 12 V; I_{GT} = 0.5 mA;R_{GK} = 1 KΩ		2	6	mA
holding current	I_H	V_D = 12 V; I_{GT} = 0.5 mA;R_{GK} = 1 kΩ		2	5	mA
on-state voltage	V_T	I_T = 2 A		1.35	1.5	V
gate trigger voltage	V_{GT}	I_T = 10 mA;V_D = 12 V		0.5	0.8	V
		I_T = 10 mA;V_D = $V_{DRM(max)}$; Tj = 125℃	0.2	0.3		V
off-state leakage current	I_D, I_R	V_D = $V_{DRM(max)}$; V_R = $V_{RRM(max)}$;Tj = 125 ℃; R_{GK} = 1 kΩ		0.05	0.1	mA
critical rate of rise of off-state voltage	dV_D/dt	V_{DM} = 67 % $V_{DRM(max)}$; Tj = 125℃;exponential waveform;R_{GK} = 1 kΩ	500	800		V/μs
		V_{DM} = 67 % $V_{DRM(max)}$; Tj = 125℃;exponential waveform;gate open circuit		25		V/μs
gate controlled turn-on time	t_{gt}	I_{TM} = 2 A; V_D = $V_{DRM(max)}$;I_G = 10 mA; dI_G/dt = 0.1 A/μs		2		μs
circuit commuted turn-off time	t_q	V_D = 67 % $V_{DRM(max)}$; Tj = 125 ℃;I_{TM} = 1.6 A; V_R = 35 V;dI_{TM}/dt = 30 A/μs; dV_D/dt = 2 V/μs;R_{GK} = 1 kΩ		100		μs