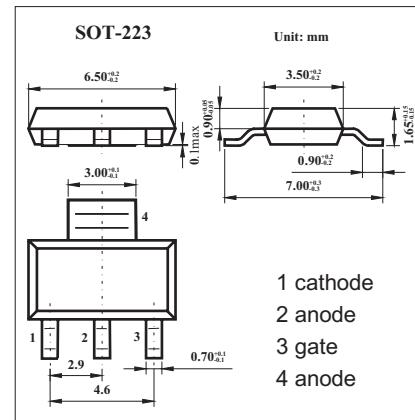
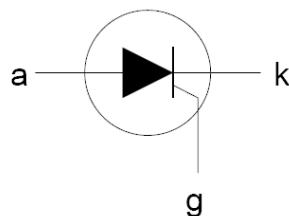


Thyristors logic level

BT169DW

■ Features

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



■ Absolute Maximum Ratings Ta = 25°C

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 °C	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 (all conduction angles; T _j = 25°C)	I _{TS(M)}	8	A
		9	A
I ² t for fusing t = 10 ms	I _{2t}	0.32	A ² s
repetitive rate of rise of on-state current after triggering *	dI/dt	50	A/μ s
peak gate current	I _{GM}	1	A
peak gate voltage	V _{GFM}	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	°C
junction temperature	T _j	125	°C
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/μ s

BT169DW

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
gate trigger current	I _{GT}	V _D = 12 V; I _T = 10 mA		50	200	µ A
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)} ; T _j = 125°C	0.2	0.3		V
off-state leakage current	I _D , I _R	V _D = V _{DRM(max)} ; V _R = V _{RRM(max)} ; T _j = 125 °C; 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)} ; T _j = 125°C; exponential waveform; R _{GK} = 1 kΩ	500	800		V/ µ s
		V _{DM} = 67 % V _{DRM(max)} ; T _j = 125°C; exponential waveform; gate open circuit		25		V/ µ s
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/ µ s		2		µ s
circuit commuted turn-off time	t _q	V _D = 67 % V _{DRM(max)} ; T _j = 125 °C; I _{TM} = 1.6 A; V _R = 35 V; dI _{TM} /dt = 30 A/ µ s; dv _D /dt = 2 V/ µ s; R _{GK} = 1 kΩ		100		µ s