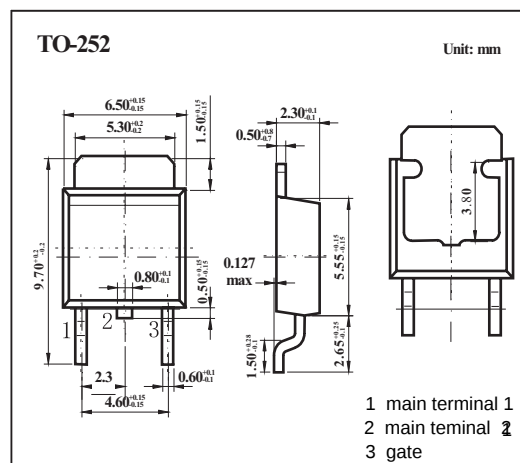
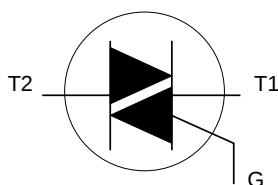


Triacs

BT137-500

■ Features

- Repetitive peak off-state voltages : $V_{DRM}=500V$
- RMS on-state current : $I_T(RMS)=8A$
- Non-repetitive peak on-state current : $I_{TSM}=65A$



■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Testconditions	Rating	Unit
Repetitive peak off-state voltages	V_{DRM}		500	V
RMS on-state current	$I_T(RMS)$	full sine wave; $T_{mb} \leq 102^\circ C$	8	A
Non-repetitive peak on-state current	I_{TSM}	full sine wave; $T_j = 25^\circ C$ prior to surge		
		$t = 20\text{ ms}$	65	A
		$t = 16.7\text{ ms}$	71	A
I^2t for fusing	I^2t	$t = 10\text{ ms}$	21	A^2S
Repetitive rate of rise of on-state current after triggering	dI/dt	$I_{TM} = 12\text{ A}; I_G = 0.2\text{ A}; dI_G/dt = 0.2\text{ A}/\mu s$		
		T2+ G+	50	$A/\mu s$
		T2+ G-	50	$A/\mu s$
		T2- G-	50	$A/\mu s$
		T2- G+	10	$A/\mu s$
Peak gate current	I_{GM}		2	A
Peak gate voltage	V_{GM}		5	V
Peak gate power	P_{GM}		5	W
Average gate power	$P_{G(AV)}$	over any 20 ms period	0.5	W
Storage temperature	T_{stg}		-40 to 150	$^\circ C$
Operating junction temperature	T_j		125	$^\circ C$
Thermal resistance junction to mounting base	$R_{th\ j-mb}$	full cycle	2.0	K/W
		half cycle	2.4	K/W
Thermal resistance junction to ambient	$R_{th\ j-a}$	in free air	60	K/W

BT137-500

■ Electrical Characteristics $T_a = 25\text{ }^{\circ}\text{C}$

Parameter	Symbol	Test conditions	Min			Typ	Max			Unit
			... E	... F	... G		... E	... F	... G	
Gate trigger current	I_{GT}	$V_D = 12\text{ V}; I_T = 0.1\text{ A}$ T2+ G+ T2+ G- T2- G- T2- G+				6	35	25	50	mA
						8	35	25	50	mA
						12	35	25	50	mA
						30	70	70	100	mA
Latching current	I_L	$V_D = 12\text{ V}; I_{GT} = 0.1\text{ A}$ T2+ G+ T2+ G- T2- G- T2- G+				8	30	30	45	mA
						17	45	45	60	mA
						6	30	30	45	mA
						8	45	45	60	mA
Holding current	I_H	$V_D = 12\text{ V}; I_{GT} = 0.1\text{ A}$				5	20	20	40	mA
On-state voltage	V_T	$I_T = 10\text{ A}$				1.3	1.70			V
Gate trigger voltage	V_{GT}	$V_D = 12\text{ V}; I_T = 0.1\text{ A}$				0.7	1.5			V
		$V_D = 400\text{ V}; I_T = 0.1\text{ A}; T_J = 125\text{ }^{\circ}\text{C}$	0.25			0.4				V
Off-state leakage current	I_D	$V_D = V_{DRM(max)}; T_J = 125\text{ }^{\circ}\text{C}$				0.1	0.5			mA
Critical rate of rise of off-state voltage	dv_D/dt	$V_{DM} = 67\% V_{DRM(max)}; T_J = 125\text{ }^{\circ}\text{C}$; exponential waveform; gate open circuit	100	50	200	250				V/ μs
Critical rate of change of commutating voltage	dV_{com}/dt	$V_{DM} = 400\text{ V}; T_J = 95\text{ }^{\circ}\text{C}; I_{T(RMS)} = 8\text{ A}; dI_{com}/dt = 3.6\text{ A/ms}$; gate open circuit			10	20				V/ μs
Gate controlled turn-on time	t_{gt}	$I_{TM} = 12\text{ A}; V_D = V_{DRM(max)}; I_G = 0.1\text{ A}; dI_G/dt = 5\text{ A}/\mu\text{s}$				2				μs