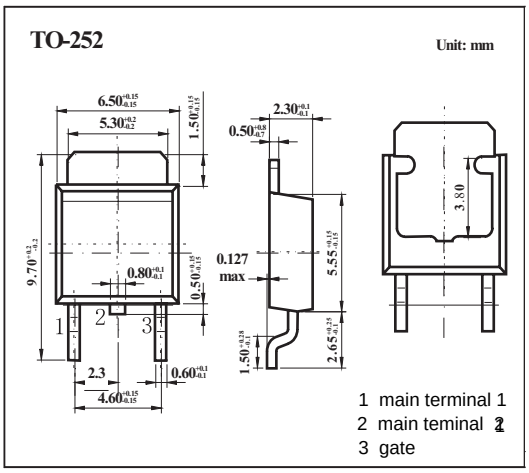
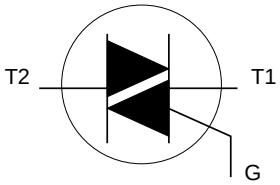
Triacs

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 Ta = 25℃

Parameter	Symbol	Testconditons	Rating	Unit
Repetitive peak off-state voltages	V_{DRM}		500	V
RMS on-state current	$I_{T(RMS)}$	full sine wave; T_{mb} ≤ 102 ℃	8	A
Non-repetitive peak on-state current	I_{TSM}	full sine wave; Tj = 25℃ prior to surge		
		t = 20 ms	65	A
		t = 16.7 ms	71	A
I2t for fusing	I^2t	t = 10 ms	21	A^2S
Repetitive rate of rise of on-state current after triggering	Dit / dt	I_{TM} = 12 A; I_G = 0.2 A; dI_G/dt = 0.2 A/μs		
		T2+ G+	50	A/μs
		T2+ G-	50	A/μs
		T2- G-	50	A/μs
		T2- G+	10	A/μs
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	℃
Operating junction temperature	T_j		125	℃
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

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■ Electrical Characteristics Ta = 25 ℃

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