SHENZHEN MENGKE ELECTRONICS TECHNOLOGY CO.,LTD

TO-252/TO-251 Plastic-Encapsulate Transistors

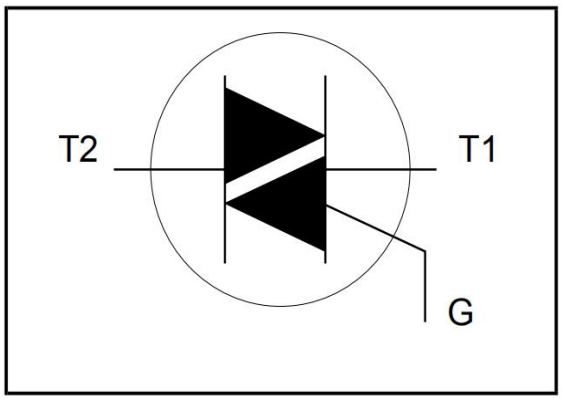
BT137S TRIAC

Parameter	Symbol	Max			Unit
BT137S--series E		500E	600E	800E	
Repetitive peak off-state voltages	VDRM	500	600	800	V
RMS on-state current	ITRMS	8	8	8	A
Non-repetitive peak on-state current	ITSM	65	65	65	A

DESCRIPTION :

Glass passivated, sensitive gate triacs in a plastic envelope, suitable for surface mounting, intended for use in general purpose bidirectional switching and phase control applications, where high sensitivity is required in all four quadrants.

SYMBOL :



MAXIMUM RATINGS (Ta=25℃ unless otherwise noted)

Parameter		Symbol	value			Unit
Repetitive Peak Off-stage Voltages		VDRM	500	600	800	V
RMS on-state current (full sine wave)	Tmb ≤ 102 ˚C	ITRMS	8			A
Non repetitive surge peak on-state current	t=20ms	ITSM	65			A
(full sine wave, Tj =25℃)	t=16.7ms		71			A
I 2 t for fusing	t=10ms	I 2 t	21			A2S
Peak gate current		IGM	2			A
Peak gate voltage		VGM	5			V
Peak gate power		PGM	5			W
Average gate power (over any 20 ms period)		PG(AV)	0.5			W
Operating junction temperature range		TJ	-40 to +150			℃
Storage junction temperature range		TStg	-40 to +150			℃

STATIC CHARACTERISTICS (Ta=25℃ unless otherwise stated)

Parameter	Symbol	Test Condition		TYP	Max	Unit
Gate trigger current	IGT	VD = 12 V; IT = 0.1 A	T2+ G+	2.5	10	mA
			T2+ G-	4.0	10	mA
			T2- G-	5.0	10	mA
			T2- G+	11	25	mA
Latching current	IL	VD = 12 V; IGT = 0.1 A	T2+ G+	3.0	25	mA
			T2+ G-	14	35	mA
			T2- G-	3.0	25	mA
			T2- G+	4.0	35	mA
Holding current	IH	VD = 12 V; IGT = 0.1 A		2.5	20	mA
On-state voltage	VT	IT = 5 A		1.3	1.7	V
Gate trigger voltage	VGT	VD = 12 V; IT = 0.1 A VD = 400 V; IT = 0.1 A; Tj = 125 ˚C		0.7 0.4	1.5	V
Off-state leakage current	ID			0.1	0.5	mA

DYNAIC CHARACTERISTICS (Ta=25℃ unless otherwise stated)

Parameter	Symbol	Test Condition	TYP	Max	Unit
Critical rate of rise of off-state voltage	dVD/dt	VDM = 67% VDRM(max); Tj= 125 ˚C; exponential waveform; gate open circuit	50		V/μs
Gate controlled turn-on time	tgt	ITM = 12 A; VD = VDRM(max); IG = 0.1 A; dIG/dt = 5 A/μs	2		μs

THERMAL RESISTANCES

Parameter	Symbol	Test Condition	TYP	Max	Unit
Thermal resistance junction to mounting base	Rth j-mb	full cycle half cycle		2 2.4	K/W
Thermal resistance junction to ambient	Rth j-a	pcb (FR4) mounted; footprint as in Fig.14	75		K/W

TYPICAL ELEC TRICAL AND THERMAL CHARACTERISTICS