



**SHENZHEN MENGKE ELECTRONICS TECHNOLOGY CO.,LTD**  
**TO-252/TO-251 Plastic-Encapsulate Transistors**

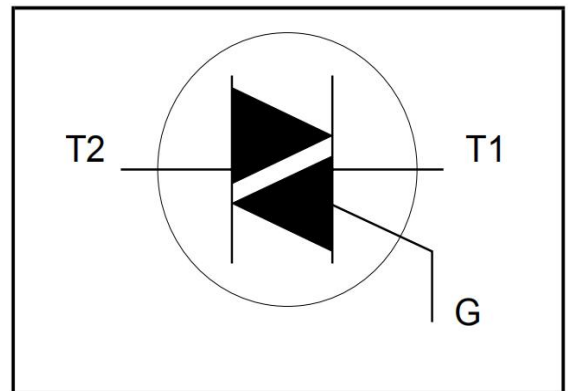
## BT136S TRIAC

Parameter	Symbol	Max			Unit
		500E	600E	800E	
<b>BT136S--series E</b>					
Repetitive peak off-state voltages	VDRM	500	600	800	V
RMS on-state current	ITRMS	4	4	4	A
Non-repetitive peak on-state current	ITSM	25	25	25	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°C unless otherwise noted)

Parameter		Symbol	value			Unit
Repetitive Peak Off-stage Voltages		VDRM	<b>500</b>	<b>600</b>	<b>800</b>	<b>V</b>
RMS on-state current (full sine wave)	Tmb ≤ 107 °C	ITRMS	<b>4</b>			<b>A</b>
Non repetitive surge peak on-state current (full sine wave, Tj =25°C)	t=20ms	ITSM	<b>25</b>			<b>A</b>
	t=16.7ms		<b>27</b>			<b>A</b>
I 2 t for fusing	t=10ms	I 2 t	<b>3.1</b>			<b>A2S</b>
Peak gate current		IGM	<b>2</b>			<b>A</b>
Peak gate voltage		VGM	<b>5</b>			<b>V</b>
Peak gate power		PGM	<b>5</b>			<b>W</b>
Average gate power (over any 20 ms period)		PG(AV)	<b>0.5</b>			<b>W</b>
Operating junction temperature range		TJ	<b>-40 to +150</b>			<b>°C</b>
Storage junction temperature range		TStg	<b>-40 to +150</b>			<b>°C</b>



**STATIC CHARACTERISTICS (Ta=25°C unless otherwise stated)**

Parameter	Symbol	Test Condition	Min	Max	Unit
Gate trigger current	IGT	VD = 12 V; IT = 0.1 A	T2+ G+	10	mA
			T2+ G-	10	mA
			T2- G-	10	mA
			T2- G+	25	mA
Latching current	IL	VD = 12 V; IGT = 0.1 A	T2+ G+	15	mA
			T2+ G-	20	mA
			T2- G-	15	mA
			T2- G+	20	mA
Holding current	IH	VD = 12 V; IGT = 0.1 A		15	mA
On-state voltage	VT	IT = 5 A		1.7	V
Gate trigger voltage	VGT	VD = 12 V; IT = 0.1 A VD = 400 V; IT = 0.1 A; Tj = 125 °C	0.25	1.5	V
Off-state leakage current	ID			0.5	mA

**DYNAIC CHARACTERISTICS (Ta=25°C 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 = 6 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		3 3.7	K/W
Thermal resistance junction to ambient	Rth j-a	pcb (FR4) mounted; footprint as in Fig.14	75		K/W



TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS

