
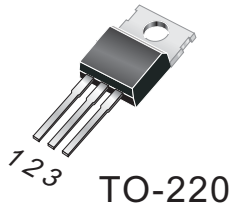


BT137-600E

Sensitive Gate Triacs

Description

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

Symbol		Simplified outline	
			
Pin	Description		
1	Main terminal 1 (T1)		
2	Main terminal 2 (T2)		
3	gate (G)		
TAB	Main terminal 2 (T2)		

Applications:

- ◆ Motor control
- ◆ Industrial and domestic lighting
- ◆ Heating
- ◆ Static switching

Features

- ◆ Blocking voltage to 600 V
- ◆ On-state RMS current to 8 A

SYMBOL	PARAMETER	Value	Unit
V_{DRM}	Repetitive peak off-state voltages	600	V
$I_T (RMS)$	RMS on-state current	8	A
I_{TSM}	Non-repetitive peak on-state current	65	A

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$R_{th\ j-mb}$	Thermal resistance Junction to mounting base	Full cycle	-	-	2.0	K/W
		Half cycle	-	-	2.4	K/W
$R_{th\ j-a}$	Thermal resistance Junction to ambient	In free air	-	60	-	K/W

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Limiting values in accordance with the Maximum system(IEC 134)

SYMBOL	PARAMETER	CONDITIONS	MIN	Value	UNIT	
V_{DRM}	Repetitive peak off-state Voltages		-	600	V	
$I_{T(RMS)}$	RMS on-state current	Full sine wave; $T_{mb} \leq 102^{\circ}C$	-	8	A	
I_{TSM}	Non-repetitive surge peak on-state current	full sine wave;, $T_j = 25^{\circ}C$ prior to surge	t=20ms	-	65	A
			t=16.7ms	-	71	A
I^2t	I^2t for fusing	T=10ms	-	21	A ² S	
di_T/dt	Repetitive rate of rise of on-state current after triggering	$I_{TM}=12A; I_G=0.2A;$ $DI_G/dt=0.2A/\mu s$	T2+G+	-	50	A/ μs
			T2+G-	-	50	A/ μs
			T2-G-	-	50	A/ μs
			T2-G+	-	10	A/ μs
I_{GM}	Peak gate current		-	2	A	
V_{GM}	Peak gate voltage		-	5	V	
P_{GM}	Peak gate power		-	5	W	
$P_{G(AV)}$	Average gate power	Over any 20 ms period	-	0.5	W	
T_{stg}	Storage temperature		-40	150	$^{\circ}C$	
T_j	Operating junction Temperature		-	125	$^{\circ}C$	

$T_j = 25^{\circ}C$ unless otherwise stated

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT	
Static characteristics							
I_{GT1}	Gate trigger current	$V_D=12V; I_T=0.1A$	T2+G+	-	2.5	10	mA
			T2+G-	-	4.0	10	mA
			T2-G-	-	5.0	10	mA
			T2-G+	-	11	25	mA
I_L	Latching current	$V_D=12V; I_{GT}=0.1A$	T2+G+	-	3.0	25	mA
			T2+G-	-	14	35	mA
			T2-G-	-	3.0	25	mA
			T2-G+	-	4.0	35	mA
I_H	Holding current	$V_D=12V; I_{GT}=0.1A$	-	2.5	20	mA	
V_T	On-state voltage	$I_T=10A$	-	1.3	1.65	V	
V_{GT}	Gate trigger voltage	$V_D=12V; I_T=0.1A$	-	0.7	1.5	V	
		$V_D=400V; I_T=0.1A; T_j=125^{\circ}C$	0.25	0.4	-	V	
I_D	Off-state leakage current	$V_D=V_{DRM(max)}; T_j=125^{\circ}C$	-	0.1	0.5	mA	

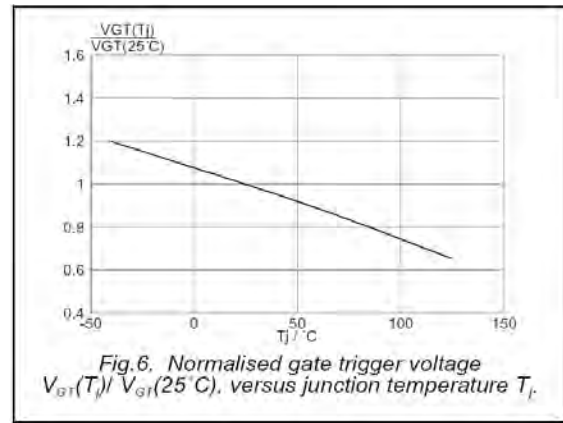
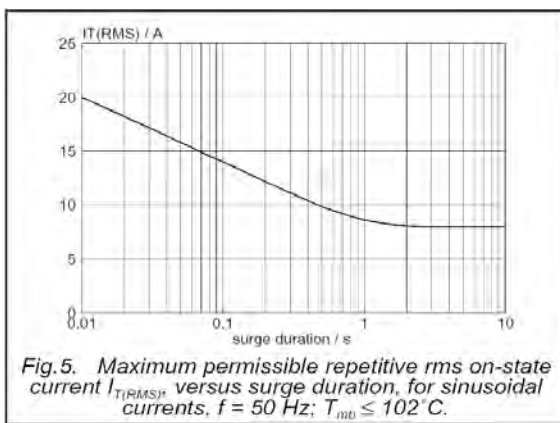
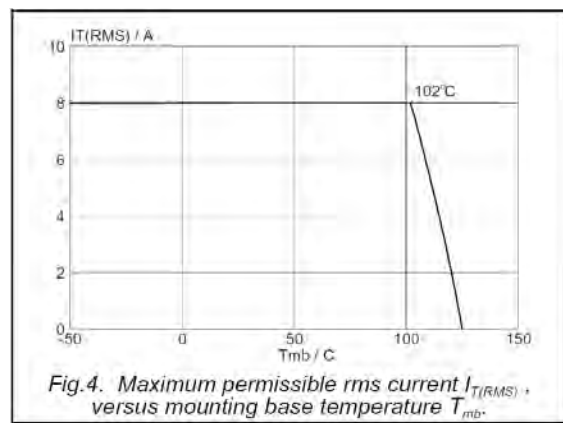
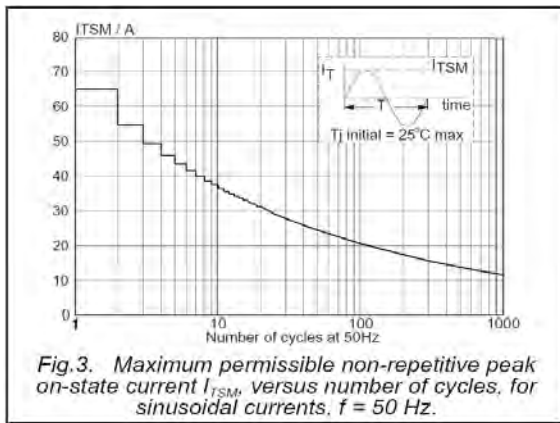
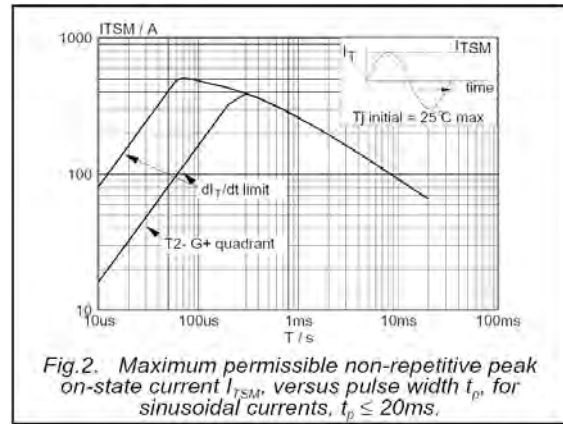
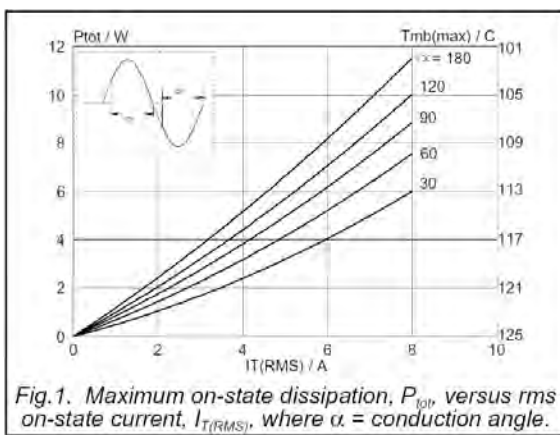
Dynamic Characteristics

dV_D/dt	Critical rate of rise of Off-state voltage	$V_{DM}=67\% V_{DRM(max)}; T_j=125^{\circ}C;$ Exponential wave form; gate open circuit	-	50	-	V/ μs
t_{gt}	Gate controlled turn-on time	$I_{TM}=12A; V_D=V_{DRM(max)}; I_G=0.1A;$ $DI_G/dt=5A/\mu s$	-	2	-	μs

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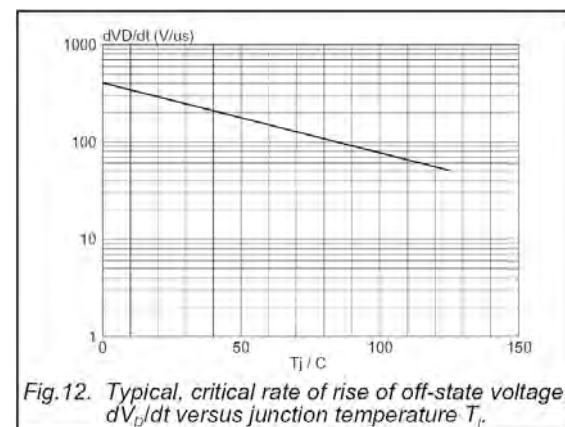
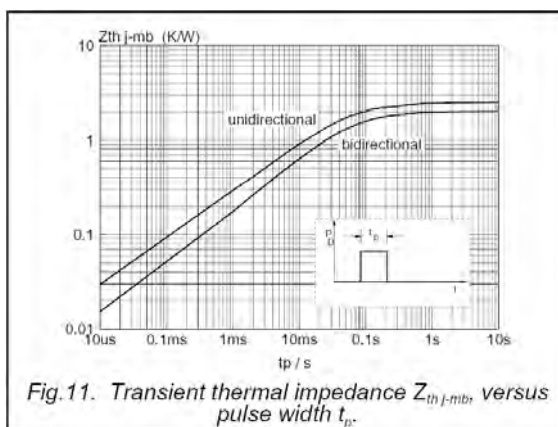
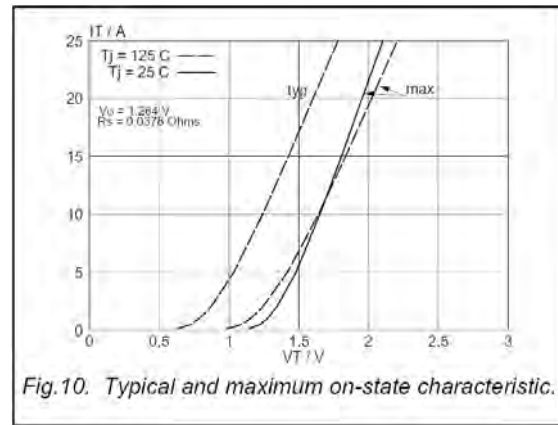
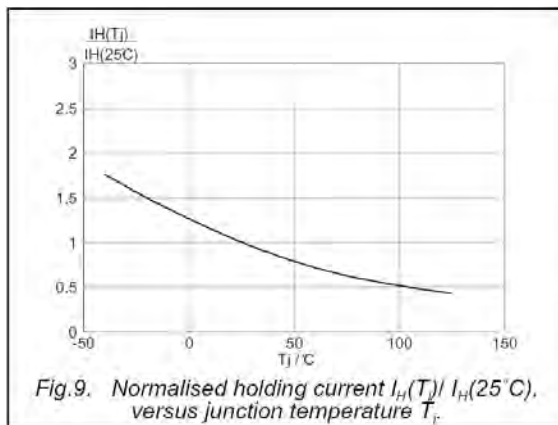
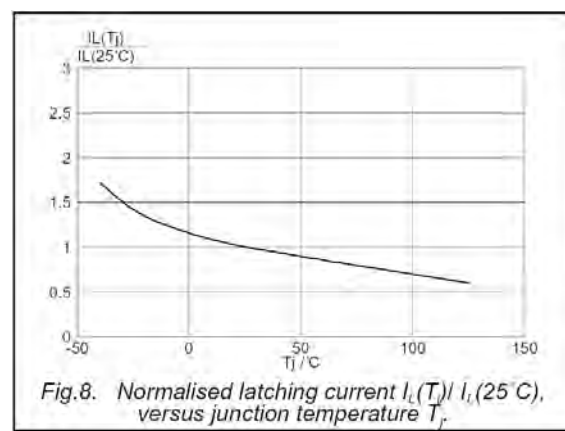
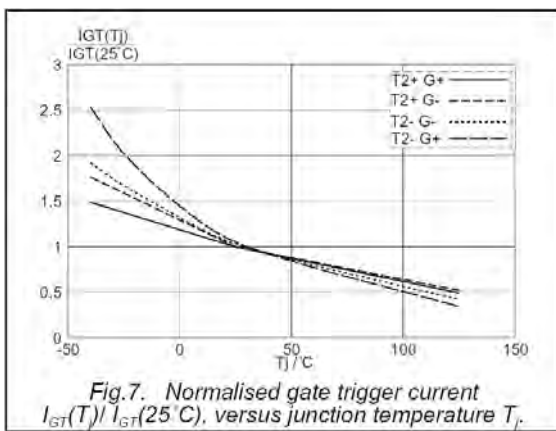
Description



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MECHANICAL DATA

Dimensions in mm
Net Mass: 2 g

