

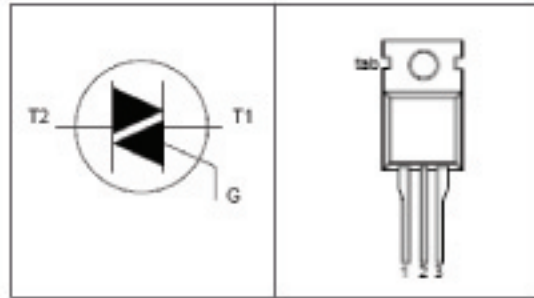


# 绍兴怡华电子科技有限公司

PART NAME: BT138  
ISSUE DATE: 2010-03-13  
Establishment: Carolyn

## ■ 主要特点:

符号	数值	单位
$I_T$ (RMS)	12	A
$V_{DRM}/V_{RRM}$	600&800	V
$I_{GT}$ (Q1)	5~50	mA



## ■ 用途:

BT138 双向可控硅系列适用于一般交流开关电路,如:固态继电器,感应马达启动控制,调温控制,调光控制,调速控制...等.

## ■ 极限值:

符号	参数		数值	单位
$I_{T(RMS)}$	RMS 通态电流	$T_C=90^\circ\text{C}$	12	A
$I_{TSM}$	通态峰值浪涌电流	$F=50\text{Hz}, t=20\text{ms}$	95	A
$I_t$	$I_t$ 耗散值	$T_p=10\text{ms}$	45	$\text{A}^2\text{s}$
$di/dt$	通态电流上升值	$F=120\text{Hz}, T_j=125^\circ\text{C}$	50	$\text{A}/\mu\text{s}$
$I_{GM}$	门极峰值电流	$TP=20\mu\text{s}, T_j=125^\circ\text{C}$	2	A
$P_{G(AV)}$	平均门极耗散功率	$T_j=125^\circ\text{C}$	0.5	W

<b>Tstg</b>	贮存结温范围	<b>-40+150</b>	℃
<b>Tj</b>	工作结温范围	<b>-40+125</b>	℃

## ■ 电特性

参数名称	符号	规范值	单位	测试条件	
触发电流	$I_{GT}$	$\leq 50$	mA	$V_D=12V, I_T=0.1A$	T2+G+
		$\leq 50$	mA		T2+G-
		$\leq 50$	mA		T2-G-
		$\leq 100$	mA		T2-G+
触发电压	$V_{GT}$	$\leq 1.5$	V	$V_D=12V, I_T=0.1A$	
维持电流	$I_H$	$\leq 60$	mA	$V_D=12V, I_T=0.1A$	
电压上升率	$dv/dt$	$\geq 50$	V/ $\mu$ S	$V_D=67\%V_{DRM}$	
通态压降	$V_{TM}$	$\leq 1.65$	V	$I_T=15A$	
断态漏电流	$I_{DRM}$	$\leq 0.5$	mA	$V_D=V_{DRM}, T_j=125^\circ C$	

## ■ 热阻:

符号	参数	数值	单位
<b>Rth(j-c)</b>	<b>Junction to case(AC)</b>	<b>2.0</b>	℃/W
<b>Rth(j-a)</b>	<b>Junction to ambient</b>	<b>60</b>	℃/W

■ 特性曲线:

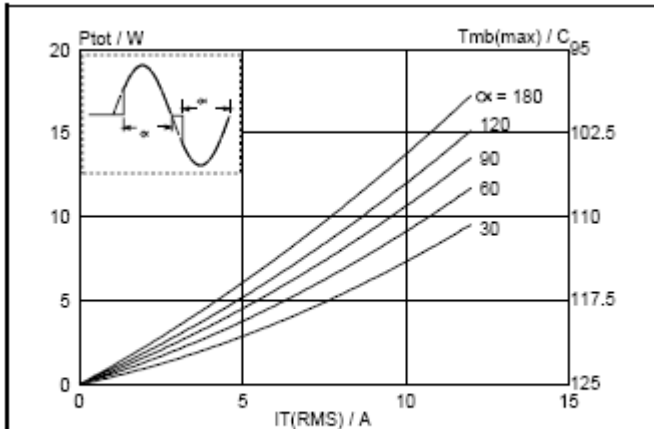


Fig. 1. Maximum on-state dissipation,  $P_{tot}$ , versus rms on-state current,  $I_{T(RMS)}$ , where  $\alpha$  = conduction angle.

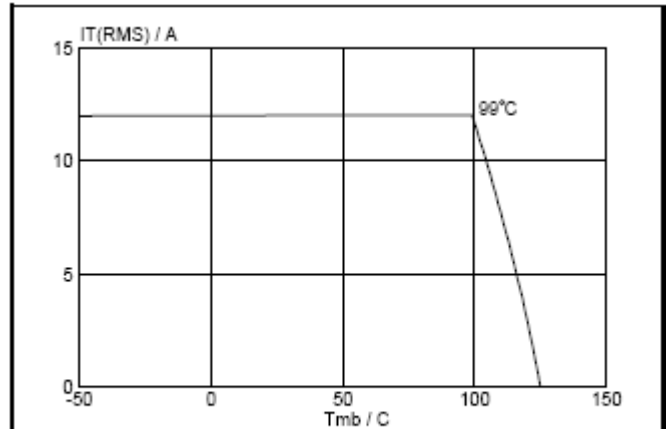


Fig. 4. Maximum permissible rms current  $I_{T(RMS)}$ , versus mounting base temperature  $T_{mb}$ .

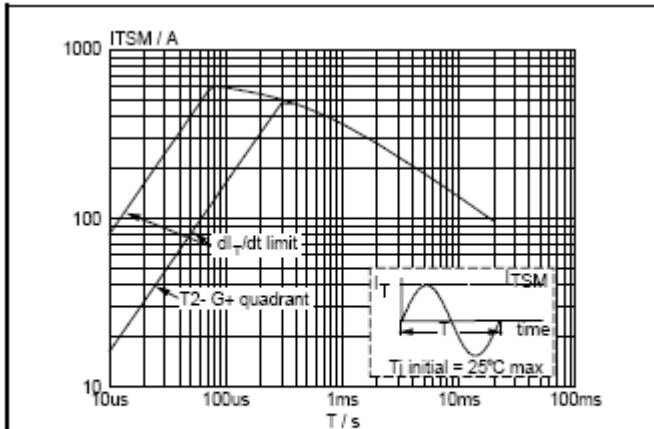


Fig. 2. Maximum permissible non-repetitive peak on-state current  $I_{TSM}$ , versus pulse width  $t_p$ , for sinusoidal currents,  $t_p \leq 20$ ms.

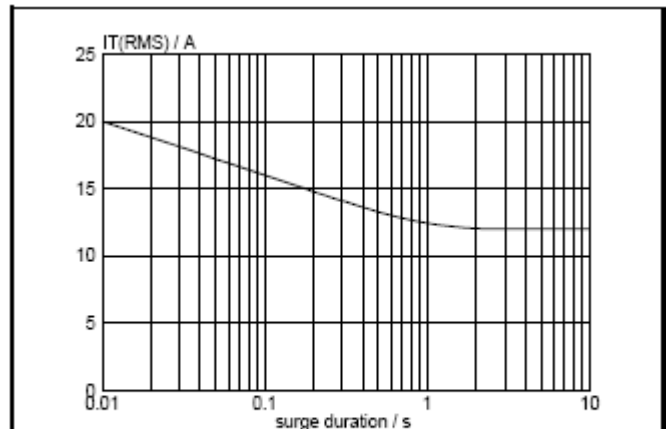


Fig. 5. Maximum permissible repetitive rms on-state current  $I_{T(RMS)}$ , versus surge duration, for sinusoidal currents,  $f = 50$  Hz;  $T_{mb} \leq 99^\circ\text{C}$ .

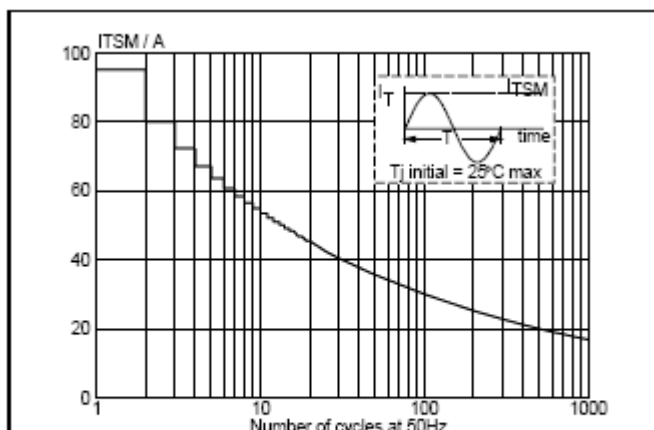


Fig. 3. Maximum permissible non-repetitive peak on-state current  $I_{TSM}$ , versus number of cycles, for sinusoidal currents,  $f = 50$  Hz.

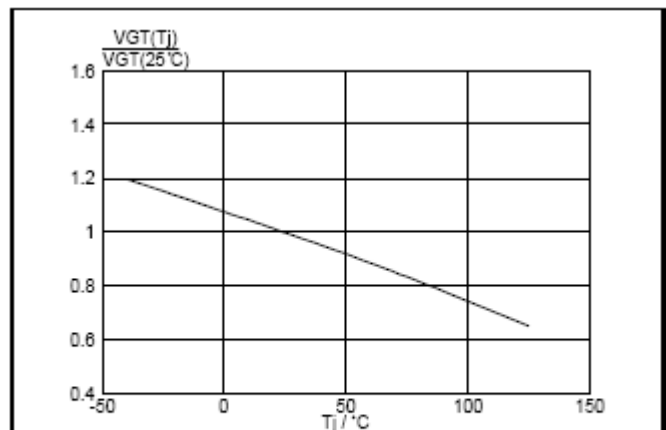
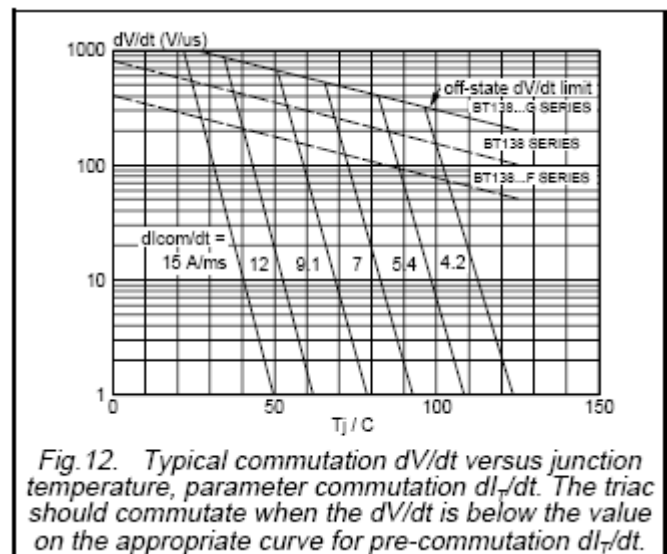
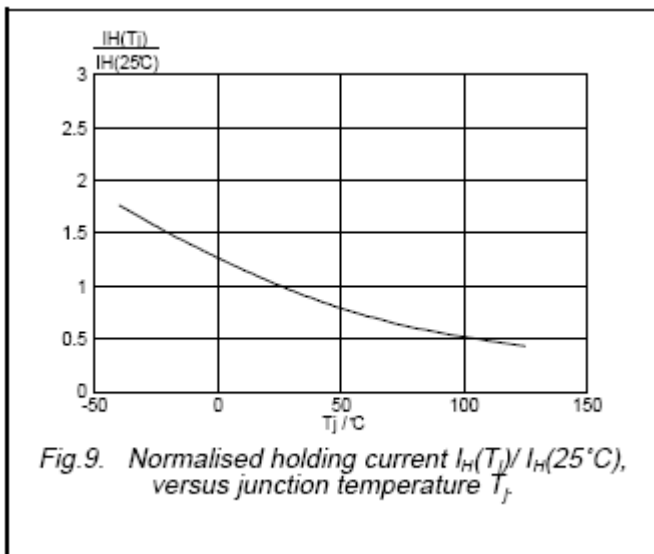
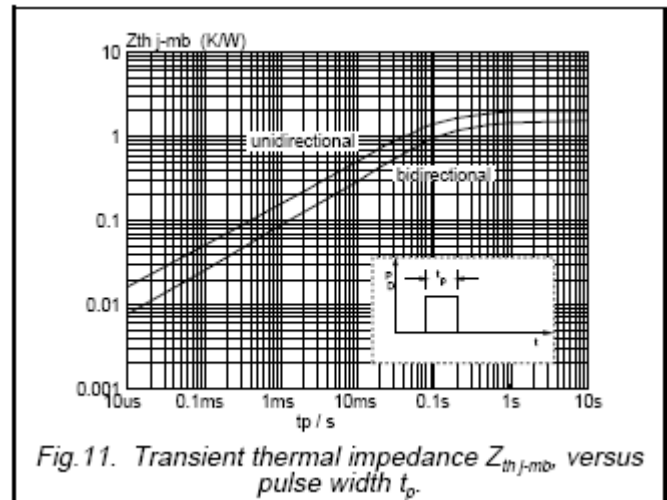
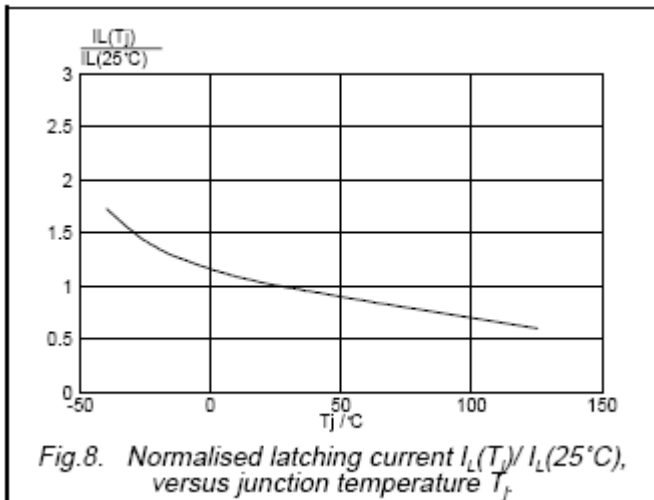
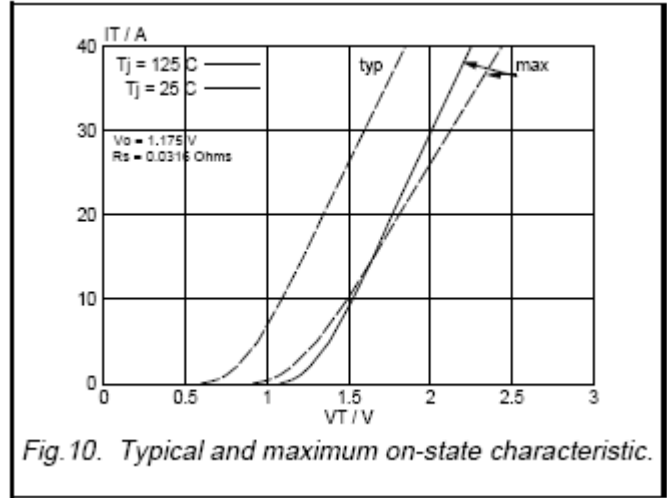
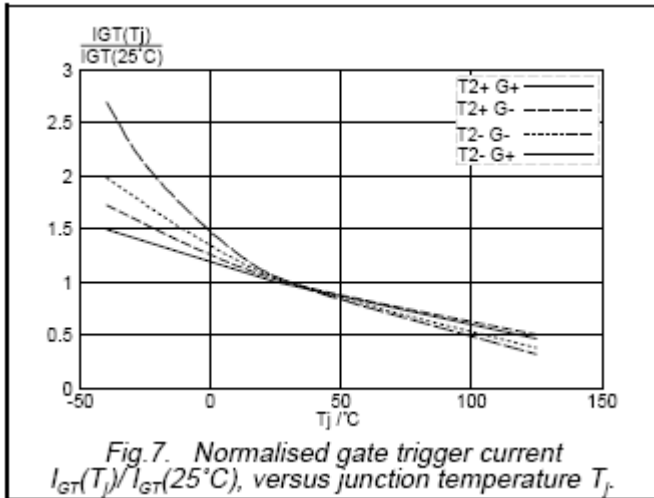


Fig. 6. Normalised gate trigger voltage  $V_{GT}(T_j)/V_{GT}(25^\circ\text{C})$ , versus junction temperature  $T_j$ .

■ 特性曲线:



## ■ TO-220AB/TO220AB 外形尺寸

Dimensions in mm

Net Mass: 2 g

