

## 4A TRIACs

Primary characteristics		
Parameter	Value	Unit
$I_{T(RMS)}$	4	A
$V_{DRM}$	600/800	V
$V_{TM}$	1.55	V

## Features

- Single mesa structure
- Glass – passivated junctions
- Lead free; RoHS compliant; Halogen free
- Molding compound flammability rating: UL 94 V-0
- Terminals: High temperature soldering guaranteed: 260 °C/10 sec. at terminals

## Applications

- Capacitive discharge systems for strobe lights, nailers, staplers and gas engine ignition
- Controls for power tools, home/brown goods and white goods appliances

Case dimensions															
TO-252															
Sym.	A	A2	B	B2	C	C2	D	E	G	H	L1	L2	V1	V2	
mm	Min.	2.20	0.03	0.55	5.10	0.45	0.48	6.00	6.40	4.40	9.35	1.30	1.37	4°	0°
	Max.	2.40	0.23	0.65	5.40	0.62	0.62	6.20	6.70	4.70	10.6	1.70	1.50	4°	8°
inch	Min.	0.086	0.001	0.022	0.200	0.018	0.019	0.236	0.252	0.173	0.368	0.051	0.054	4°	0°
	Max.	0.095	0.009	0.026	0.213	0.024	0.024	0.244	0.264	0.185	0.417	0.067	0.059	4°	8°

Case dimensions							
Sym.	mm			inch			
	Min.	Typ.	Max.	Min.	Typ.	Max.	
A	4.40	-	4.60	0.173	-	0.181	
B	0.70	-	0.90	0.028	-	0.035	
C	0.45	-	0.60	0.018	-	0.024	
C2	1.23	-	1.32	0.048	-	0.052	
C3	2.20	-	2.60	0.087	-	0.102	
D	8.90	-	9.90	0.350	-	0.390	
E	9.90	-	10.3	0.390	-	0.406	
F	6.30	-	6.90	0.248	-	0.272	
G	-	-	-	-	0.1	-	
H	28.0	-	29.8	1.102	0	1.173	
L1	-	-	-	-	0.133	-	
L2	1.14	-	1.70	0.045	-	0.067	
L3	2.65	-	2.95	0.104	-	0.116	
Φ	-	-	-	-	0.142	-	
TO-220C							

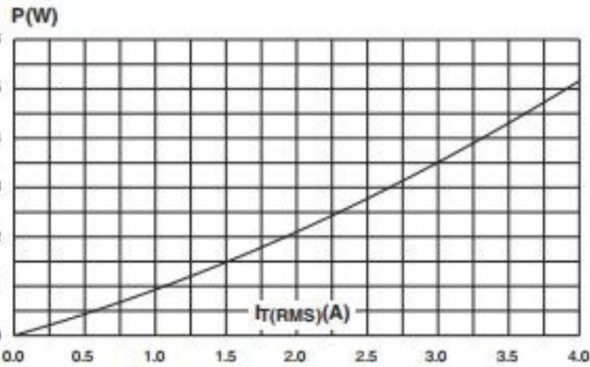
<b>Absolute maximum ratings</b> ( $T_A = 25^\circ\text{C}$ , unless otherwise specified)			
Parameter	Symbol	Value	Unit
Storage junction temperature range	$T_{stg}$	-40 to +150	$^\circ\text{C}$
Operating junction temperature range	$T_j$	-40 to +150	$^\circ\text{C}$
Repetitive peak off-state voltage ( $T_j=25^\circ\text{C}$ )	$V_{DRM}$	600/800	V
Repetitive peak reverse voltage ( $T_j=25^\circ\text{C}$ )	$V_{RRM}$	600/800	V
Non repetitive surge peak off-state voltage	$V_{DSM}$	$V_{DRM} + 100$	V
Non repetitive peak reverse voltage	$V_{RSM}$	$V_{DRM} + 100$	V
RMS on-state current ( $T_C=105^\circ\text{C}$ )	$I_{T(RMS)}$	4	A
Non repetitive surge peak on-state current (full cycle, $F=50\text{Hz}$ )	$I_{TSM}$	30	A
$I^2t$ value for fusing ( $t_p=10\text{ms}$ )	$I^2t$	5.1	$\text{A}^2\text{s}$
Critical rate of rise of on-state current ( $I_G=2 \times I_{GT}$ )	$di/dt$	50	$\text{A}/\mu\text{s}$
Peak gate current	$I_{GM}$	4	A
Average gate power dissipation	$P_{G(AV)}$	1	W
Peak gate power	$P_{GM}$	5	W

<b>Electrical characteristics</b> ( $T_A = 25^\circ\text{C}$ , unless otherwise specified)						
Symbol	Test condition	Quadrant		Value		Unit
				D	E	
$I_{GT}$	$V=12\text{V}, R=33\Omega$	I, II, III	Max.	5	10	mA
		IV		10	25	
$V_{GT}$		I, II, III, IV	Max.	1.3	1.3	V
$V_{GD}$	$V_D=V_{DRM}, T_j=125^\circ\text{C}, R=3.3\text{k}\Omega$	I, II, III, IV	Min.	0.2	0.2	V
$I_L$	$I_G=1.2\text{IGT}$	I, III, IV	Max.	15	20	mA
		II		20	25	
$I_H$	$I_T=100\text{mA}$		Max.	10	15	mA
$dV/dt$	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ\text{C}$		Min.	20	40	$\text{V}/\mu\text{s}$

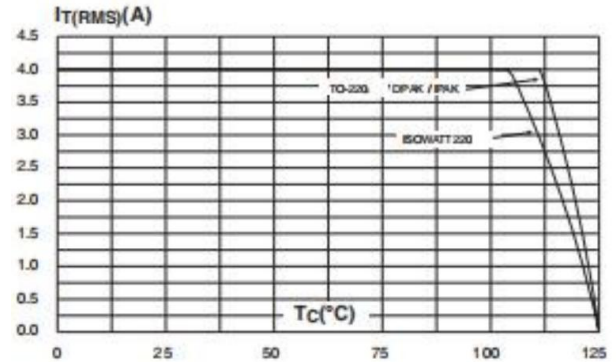
<b>Static characteristics</b>				
Symbol	Parameter		Value (Max.)	Unit
$V_{TM}$	$I_{TM}=5.5\text{A}, t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	1.55	V
$I_{DRM}$	$V_D=V_{DRM}, V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	5	$\mu\text{A}$
$I_{RRM}$		$T_j=25^\circ\text{C}$	1	mA
$R_{th(j-a)}$	Junction to ambient	TO-252	70	$^\circ\text{C}/\text{W}$
		TO-220C	60	
$R_{th(j-c)}$	Junction to case (AC)	TO-252	2.6	
		TO-220C	2.6	

Typical characteristics ( $T_{amb}=25^{\circ}C$  unless otherwise specified)

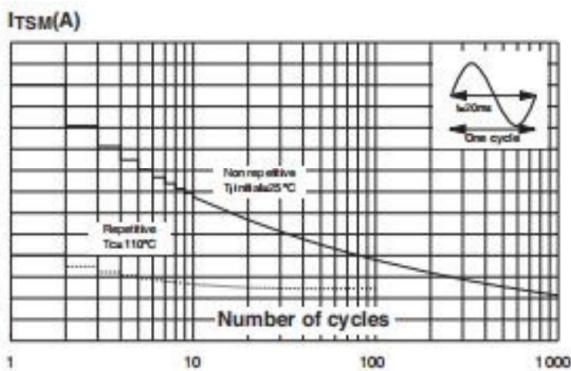
Maximum power dissipation vs. RMS on-state current



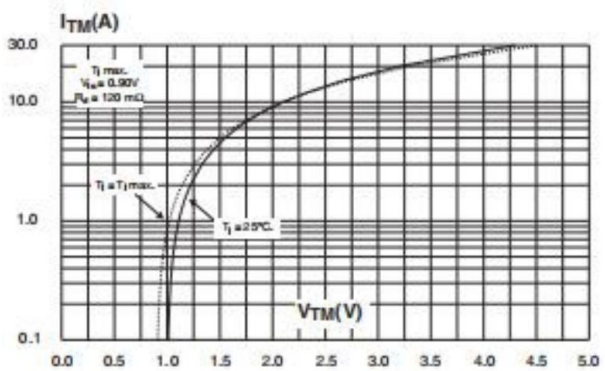
RMS on-state current vs. Case temperature



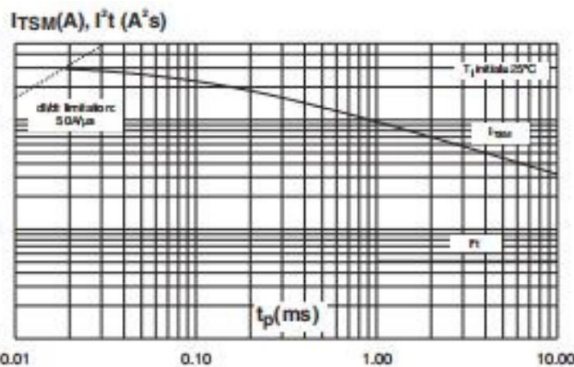
Surge peak on-state current vs. Number of cycles



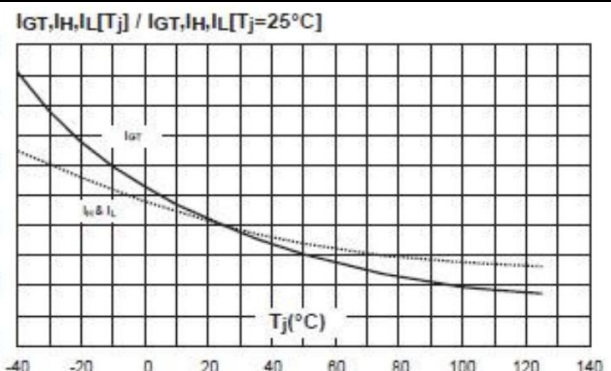
On-state characteristics (maximum values)



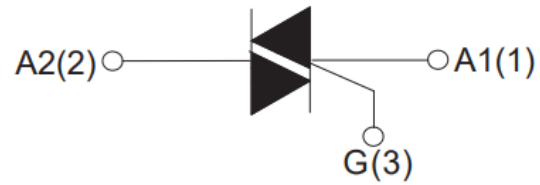
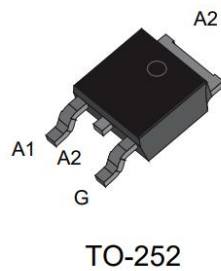
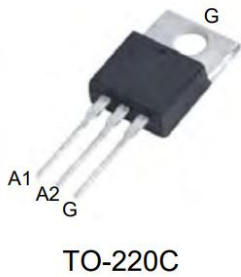
Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 20ms$ , and corresponding value of  $I^2t$  ( $di/dt < 50A/\mu s$ )



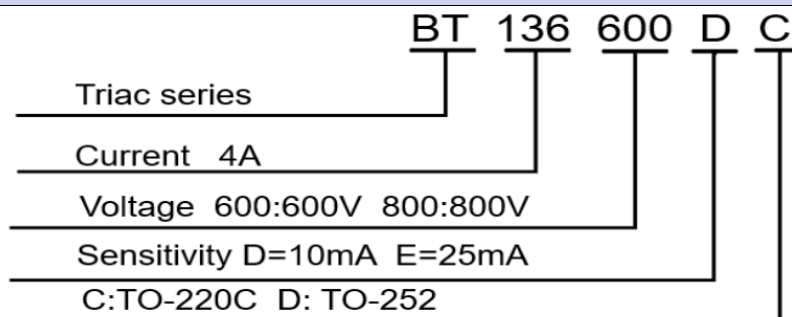
Relative variations of gate trigger current, holding current and latching current versus junction temperature



## Symbols and pinning



## Part number system



## Ordering information

Order code	Package	Packaging option	Shipping Quantity
BT136 Series C	TO-220C	Tube & Box	<b>2000 pcs</b>
BT136 Series D	TO-252	Tape & Reel	<b>2500 pcs</b>

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