

BTW67 and BTW69 Series

Tables 4: Electrical Characteristics ($T_j = 25^\circ\text{C}$, unless otherwise specified)

Symbol	Test Conditions			Value	Unit
I _{GT}	V _D = 12 V R _L = 33 Ω		MIN.	8	mA
			MAX.	80	
V _{GT}			MAX.	1.3	V
V _{GD}	V _D = V _{DRM} R _L = 3.3 kΩ	T _j = 125°C	MIN.	0.2	V
I _H	I _T = 500 mA Gate open		MAX.	150	mA
I _L	I _G = 1.2 x I _{GT}		MAX.	200	mA
dV/dt	V _D = 67 % V _{DRM} Gate open	T _j = 125°C	MIN.	1000	V/μs
V _{TM}	I _{TM} = 100 A tp = 380 μs	T _j = 25°C	MAX.	1.9	V
V _{t0}	Threshold voltage	T _j = 125°C	MAX.	1.0	V
R _d	Dynamic resistance	T _j = 125°C	MAX.	8.5	mΩ
I _{DRM} I _{RRM}	V _{DRM} = V _{RRM}	T _j = 25°C	MAX.	10	μA
		T _j = 125°C		5	mA

Table 5: Thermal resistance

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	Junction to case (D.C.)	RD91 (Insulated)	1.0	$^\circ\text{C/W}$
		TOP3 Insulated	0.9	
$R_{th(j-a)}$	Junction to ambient (D.C.)	TOP3 Insulated	50	$^\circ\text{C/W}$

Figure 1: Maximum average power dissipation versus average on-state current

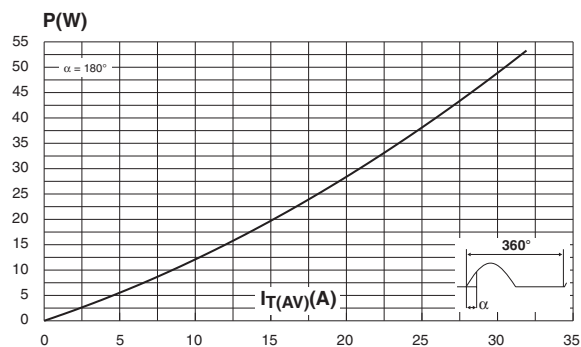


Figure 2: Average and D.C. on-state current versus case temperature

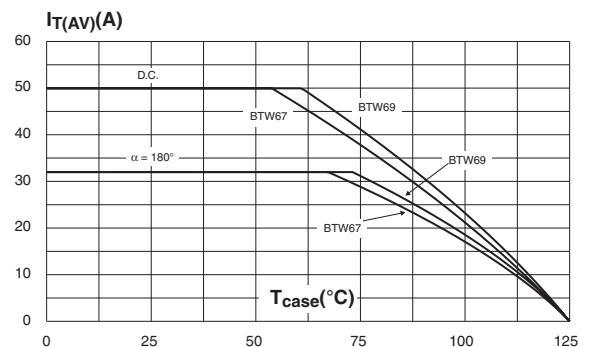


Figure 3: Relative variation of thermal impedance versus pulse duration

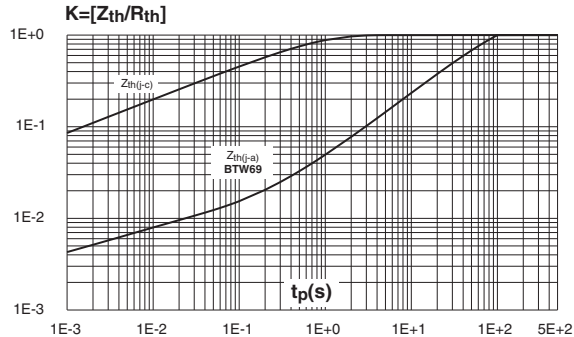


Figure 4: Relative variation of gate trigger current, holding current and latching current versus junction temperature

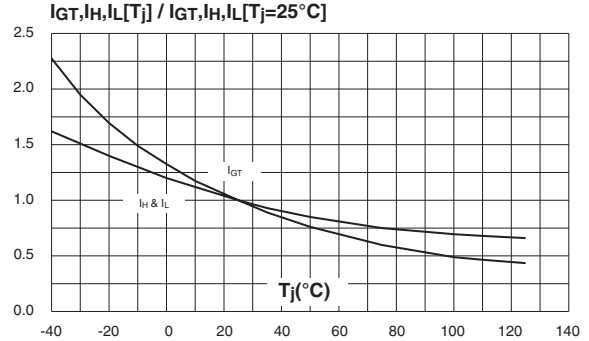


Figure 5: Surge peak on-state current versus number of cycles

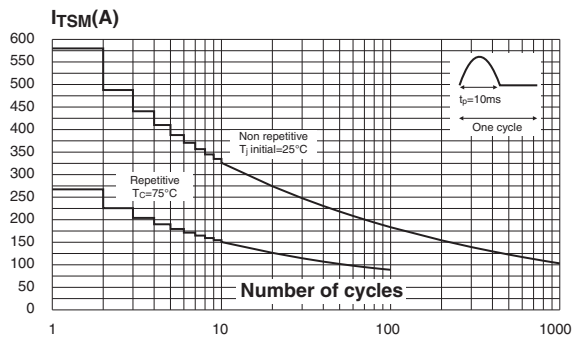


Figure 6: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10$ ms, and corresponding values of I^2t

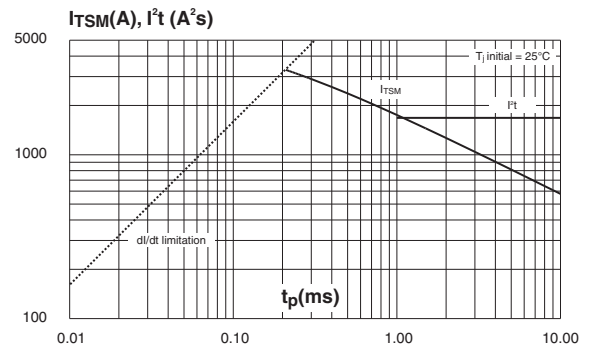
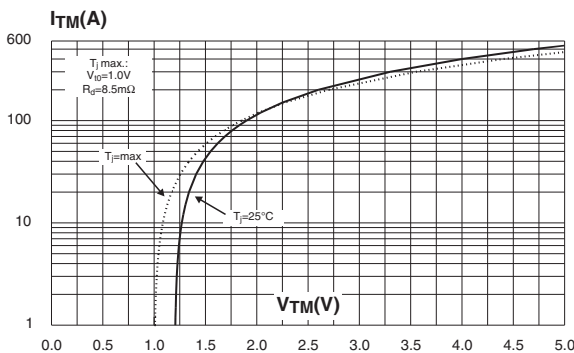


Figure 7: On-state characteristics (maximum values)



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Figure 8: Ordering Information Scheme

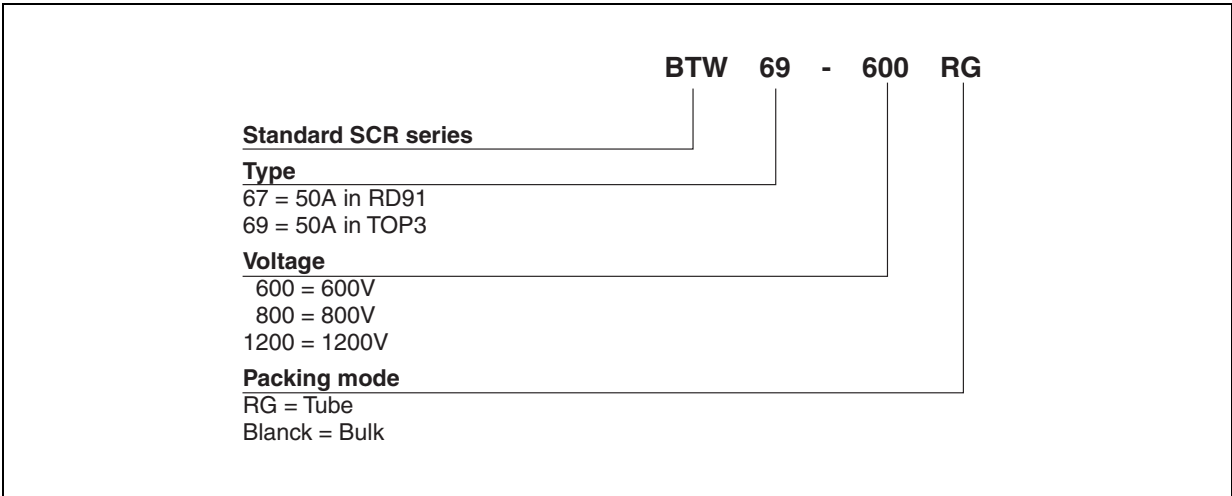


Table 6: Product Selector

Part Numbers	Voltage (xxx)			Sensitivity	Package
	600 V	800 V	1200 V		
BTW67-xxx	X	X	X	80 mA	RD91
BTW69-xxx	X	X	X	80 mA	TOP3 Ins.

Figure 9: RD91 Package Mechanical Data

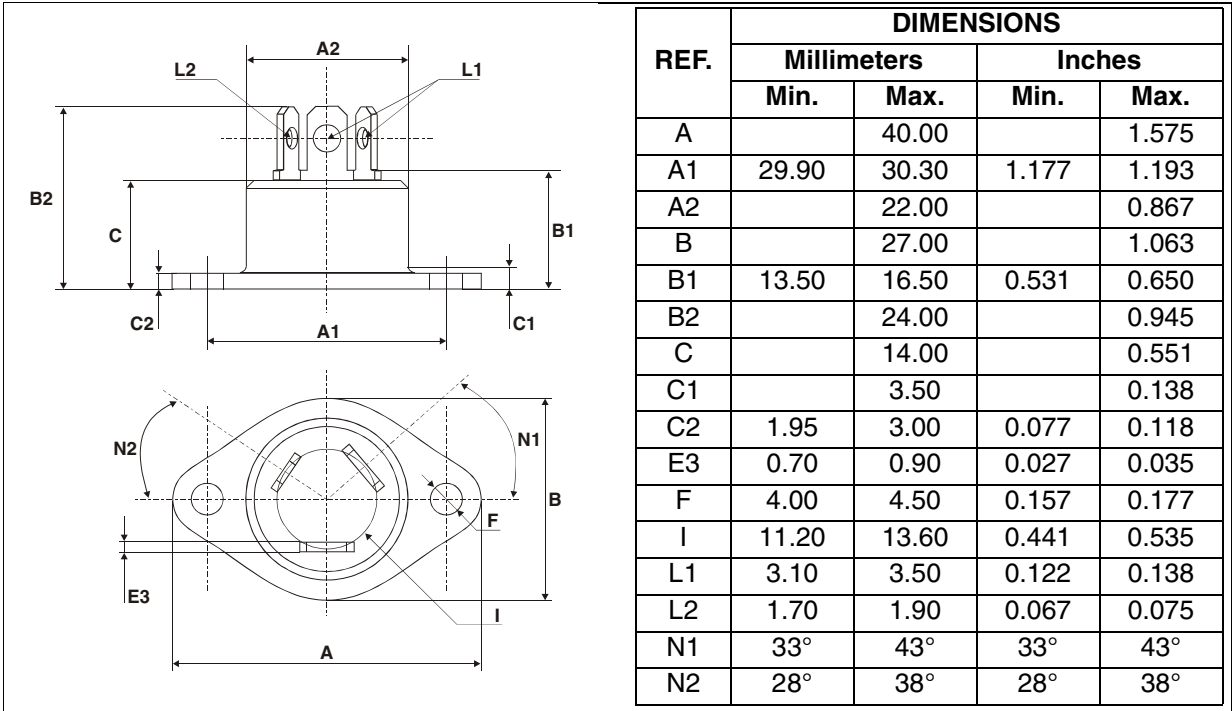
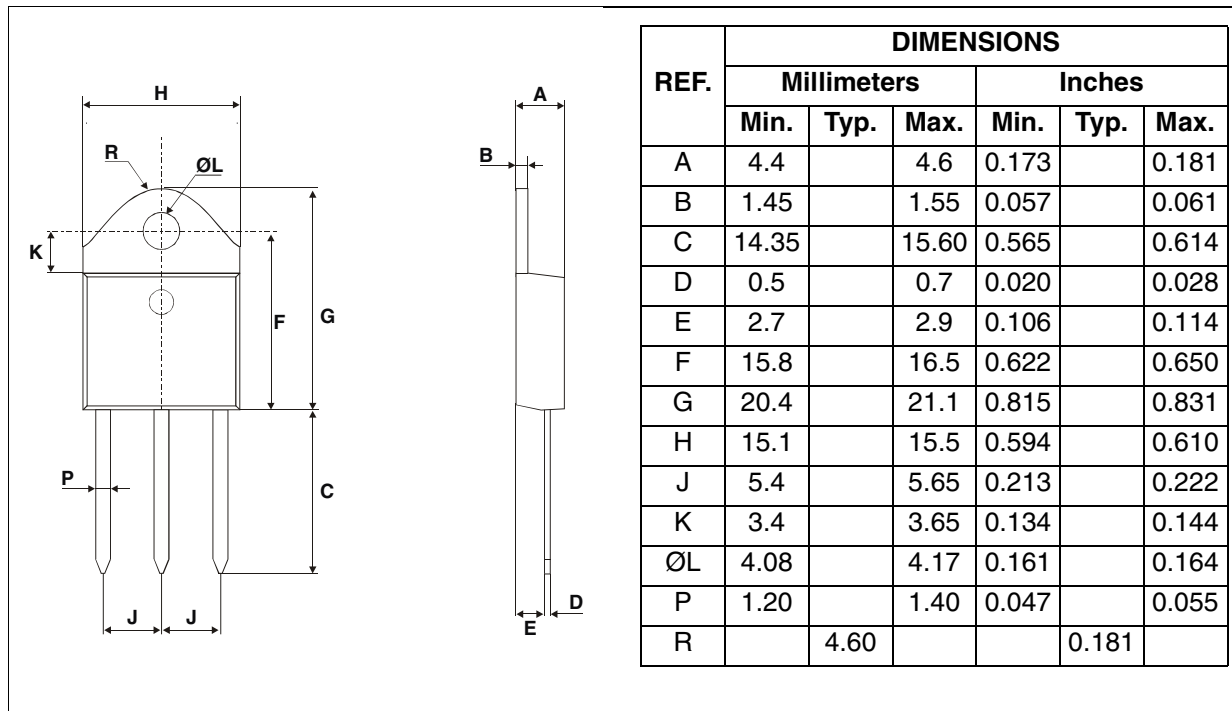


Figure 10: TOP3 Insulated Package Mechanical Data



In order to meet environmental requirements, ST offers these devices in ECOPACK® packages. These packages have a Lead-free second level interconnect. The category of second level interconnect is marked on the package and on the inner box label, in compliance with JEDEC Standard JESD97. The maximum ratings related to soldering conditions are also marked on the inner box label. ECOPACK is an ST trademark. ECOPACK specifications are available at: www.st.com.

Table 7: Ordering Information

Ordering type	Marking	Package	Weight	Base qty	Delivery mode
BTW67-xxx	BTW67xxx	RD91	20 g	25	Bulk
BTW69-xxxRG	BTW69xxx	TOP3 Ins.	4.5 g	30	Tube

Note: xxx = voltage

Table 8: Revision History

Date	Revision	Description of Changes
Apr-2001	4A	Last update.
13-Feb-2006	5	TOP3 Insulated delivery mode changed from bulk to tube. ECOPACK statement added.

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