Tables 4: Electrical Characteristics (T_j = 25°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	$I_G = 1.2 \times I_{GT}$		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	°C/W
		TOP3 Insulated	0.9	
$R_{th(j-a)}$	Junction to ambient (D.C.)	TOP3 Insulated	50	°C/W

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

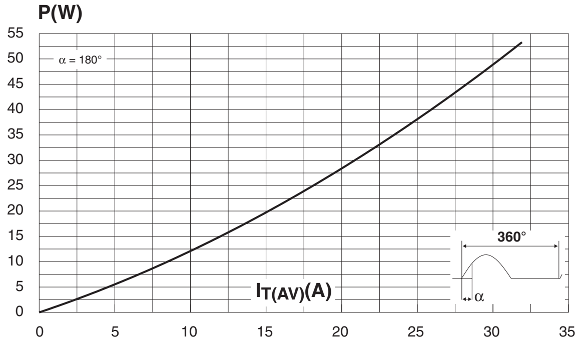


Figure 2: Average and D.C. on-state current versus case temperature

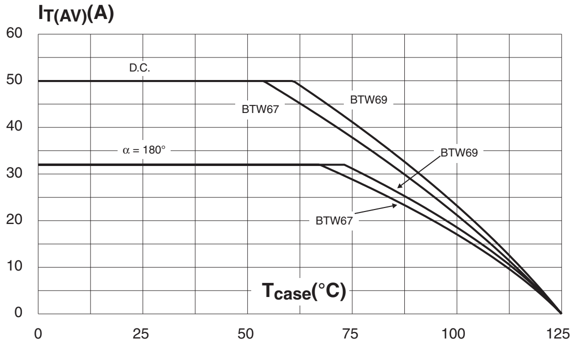


Figure 3: Relative variation of thermal impedance versus pulse duration

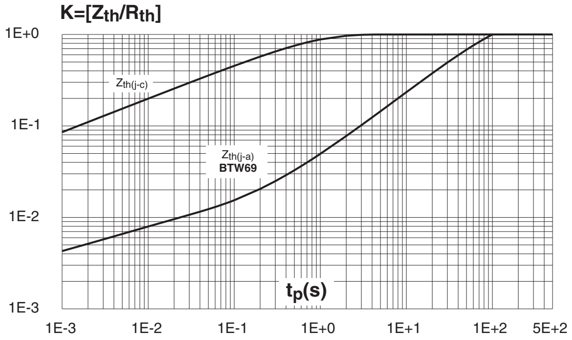


Figure 4: Relative variation of gate trigger current, holding current and latching current versus junction temperature

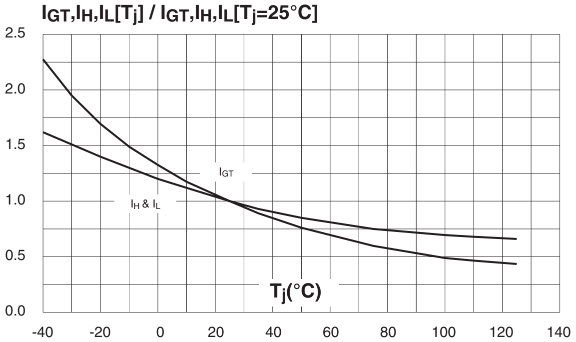


Figure 5: Surge peak on-state current versus number of cycles

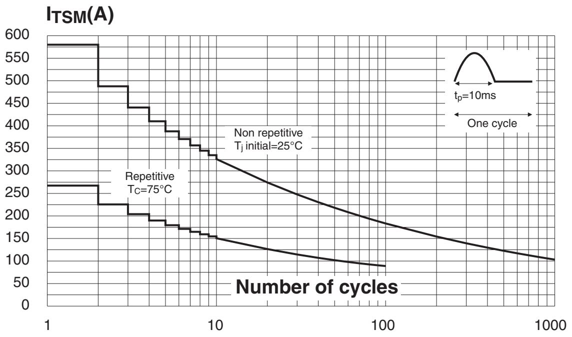


Figure 6: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp < 10 ms, and corresponding values of I²t

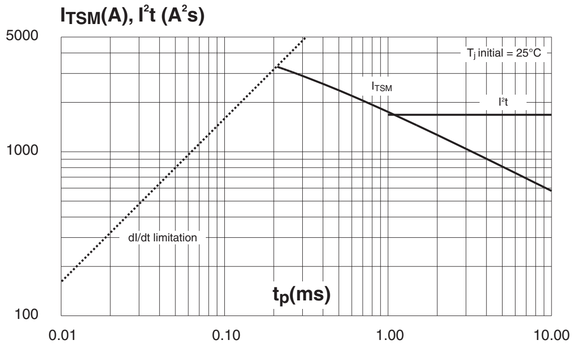


Figure 7: On-state characteristics (maximum values)

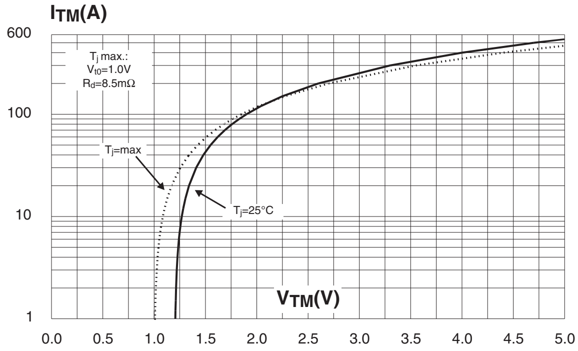


Figure 8: Ordering Information Scheme

BTW 69 - 600 RG

Standard SCR series

Type
67 = 50A in RD91
69 = 50A in TOP3

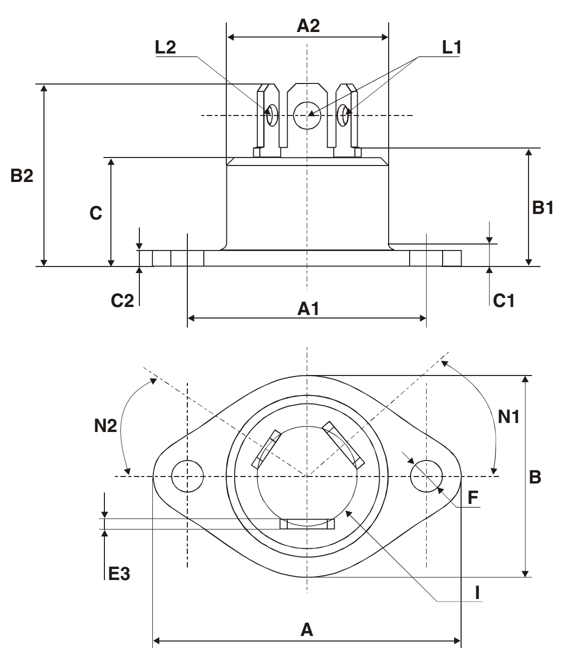
Voltage
600 = 600V
800 = 800V
1200 = 1200V

Packing mode
RG = Tube
Blanck = Bulk

Table 6: Product Selector

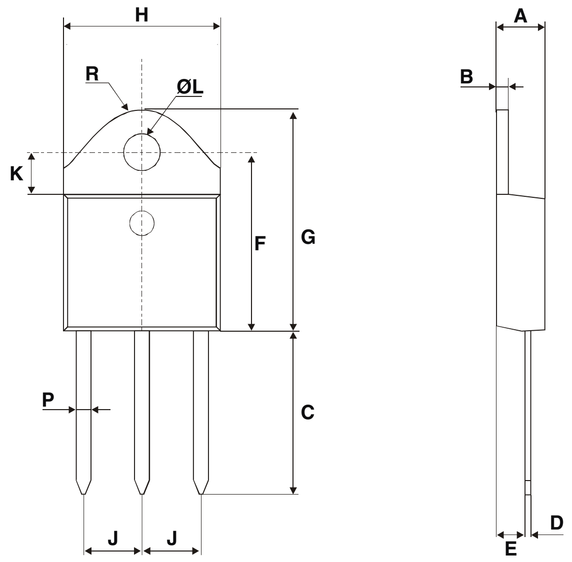
Part Numbers	Voltage (xxx)			Sensitivity	Package
	600 V	800 V	1200 V		
BTW67-xxx	X	X	X	80 mA	RD91
BTW69-xxx	X	X	X	80 mA	TOP3 Ins.

Figure 9: RD91 Package Mechanical Data



REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A		40.00		1.575
A1	29.90	30.30	1.177	1.193
A2		22.00		0.867
B		27.00		1.063
B1	13.50	16.50	0.531	0.650
B2		24.00		0.945
C		14.00		0.551
C1		3.50		0.138
C2	1.95	3.00	0.077	0.118
E3	0.70	0.90	0.027	0.035
F	4.00	4.50	0.157	0.177
I	11.20	13.60	0.441	0.535
L1	3.10	3.50	0.122	0.138
L2	1.70	1.90	0.067	0.075
N1	33°	43°	33°	43°
N2	28°	38°	28°	38°

Figure 10: TOP3 Insulated Package Mechanical Data



REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.4		4.6	0.173		0.181
B	1.45		1.55	0.057		0.061
C	14.35		15.60	0.565		0.614
D	0.5		0.7	0.020		0.028
E	2.7		2.9	0.106		0.114
F	15.8		16.5	0.622		0.650
G	20.4		21.1	0.815		0.831
H	15.1		15.5	0.594		0.610
J	5.4		5.65	0.213		0.222
K	3.4		3.65	0.134		0.144
ØL	4.08		4.17	0.161		0.164
P	1.20		1.40	0.047		0.055
R		4.60			0.181	

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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