

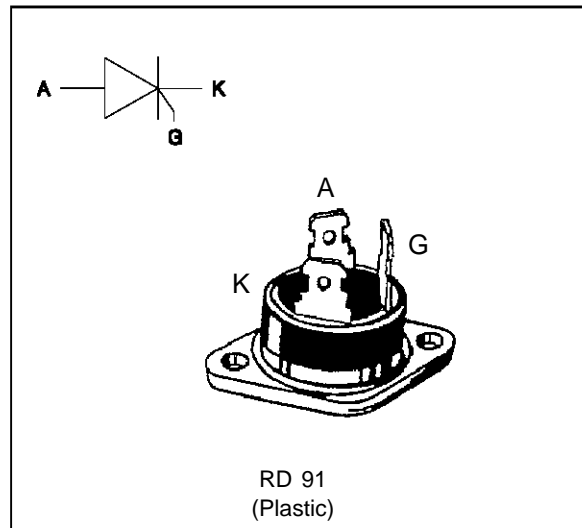
FEATURES

- HIGH SURGE CAPABILITY
- HIGH ON-STATE CURRENT
- HIGH STABILITY AND RELIABILITY
- ISOLATED PACKAGE :
INSULATED VOLTAGE = 2500V(RMS)
(UL RECOGNIZED : E81734)

DESCRIPTION

The BTW 66 and BTW 67 Family Silicon Controlled Rectifiers are high performance glass passivated chips technology.

This general purpose Family Silicon Controlled Rectifiers is designed for power supply up to 400Hz on resistive or inductive load.



ABSOLUTE RATINGS (limiting values)

Symbol	Parameter			Value	Unit
I _{T(RMS)}	RMS on-state current (180° conduction angle)	BTW 66	T _c =75°C	30	A
		BTW 67	T _c =75°C	40	
I _{T(AV)}	Average on-state current (180° conduction angle, single phase circuit)	BTW 66	T _c =75°C	20	A
		BTW 67	T _c =75°C	25	
I _{TSM}	Non repetitive surge peak on-state current (T _j initial = 25°C)	BTW 66	tp=8.3 ms	420	A
		BTW 67		525	
I ² _t	I ² _t value	BTW 66	tp=10 ms	400	A ² s
		BTW 67		500	
di/dt	Critical rate of rise of on-state current Gate supply : I _G = 100 mA di _G /dt = 1 A/μs	BTW 66		100	A/μs
		BTW 67			
T _{stg} T _j	Storage and operating junction temperature range			- 40 to + 150 - 40 to + 125	°C °C
T _I	Maximum lead temperature for soldering during 10 s at 4.5 mm from case			230	°C

Symbol	Parameter	BTW 66- / BTW 67-						Unit
		200	400	600	800	1000	1200	
V _{DRM} V _{RRM}	Repetitive peak off-state voltage T _j = 125 °C	200	400	600	800	1000	1200	V

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THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
Rth (c-h)	Contact (case to heatsink)		0.10	°C/W
Rth (j-c) DC	Junction to case for DC	BTW 66	1.2	°C/W
		BTW 67	1.0	

GATE CHARACTERISTICS (maximum values)

PG (AV) = 1W PGM = 40W (tp = 20 μs) IFGM = 8A (tp = 20 μs) VRGM = 5 V.

ELECTRICAL CHARACTERISTICS

Symbol	Test Conditions				Value		Unit
					BTW 66	BTW 67	
IGT	VD=12V (DC) RL=33Ω	Tj=25°C	MAX	50	80	mA	
VGT	VD=12V (DC) RL=33Ω	Tj=25°C	MAX	1.5		V	
VGD	VD=VDRM RL=3.3kΩ	Tj= 125°C	MIN	0.2		V	
tgt	VD=VDRM IG = 200mA dIG/dt = 1.5A/μs	Tj=25°C	TYP	2		μs	
IL	IG= 1.2 IGT	Tj=25°C	TYP	50		mA	
IH	IT= 500mA gate open	Tj=25°C	MAX	75	150	mA	
VTM	BTW 66 ITM= 60A BTW 67 ITM= 80A tp= 380μs	Tj=25°C	MAX	2.2	2.0	V	
IDRM IRRM	VDRM Rated VRRM Rated	Tj=25°C	MAX	0.02		mA	
		Tj= 125°C		6			
dV/dt	Linear slope up to VD=67%VDRM gate open	VDRM ≤ 800V VDRM ≥ 1000V	Tj= 125°C	MIN	500 250	V/μs	
tq	VD=67%VDRM ITM= 60A VR= 75V dITM/dt=30 A/μs dVD/dt= 20V/μs	Tj= 125°C	TYP	100		μs	

Package	IT(RMS)	VDRM / VRRM	Sensitivity Specification
	A	V	BTW
BTW 66 (Insulated)	30	200	X
		400	X
		600	X
		800	X
		1000	X
		1200	X
BTW 67 (Insulated)	40	200	X
		400	X
		600	X
		800	X
		1000	X
		1200	X

Fig.1 : Maximum average power dissipation versus average on-state current (BTW 66).

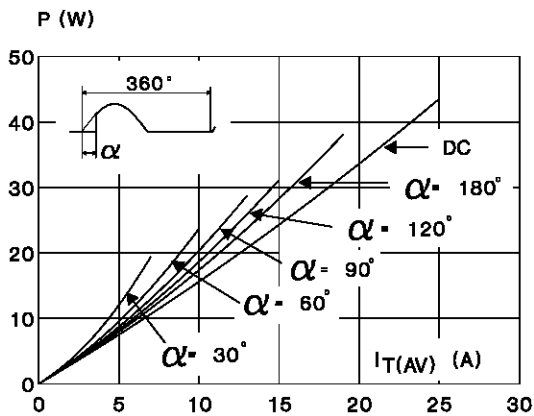


Fig.3 : Maximum average power dissipation versus average on-state current (BTW 67).

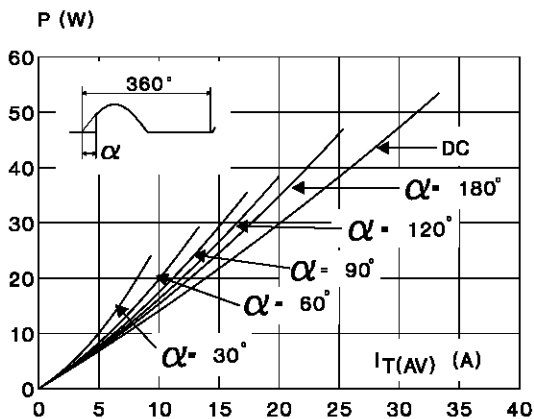


Fig.2 : Correlation between maximum average power dissipation and maximum allowable temperatures (Tamb and Tcase) for different thermal resistances heatsink + contact (BTW 66).

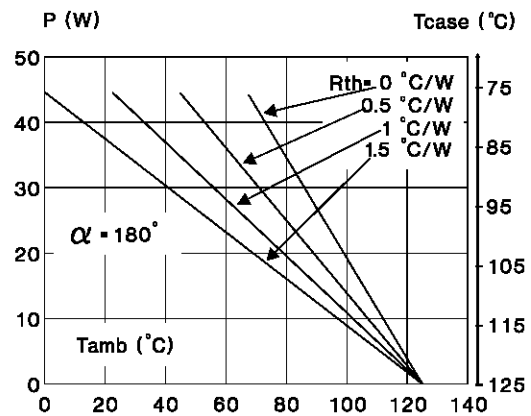
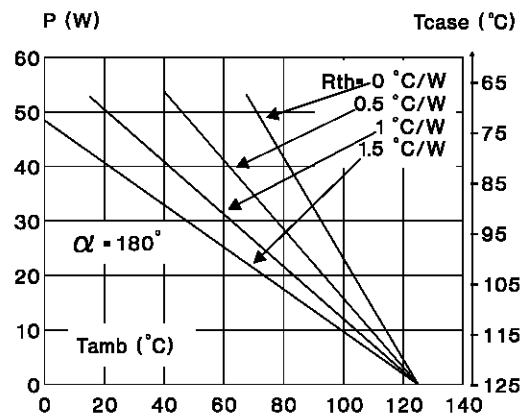


Fig.4 : Correlation between maximum average power dissipation and maximum allowable temperatures (Tamb and Tcase) for different thermal resistances heatsink + contact (BTW 67).



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Fig.5 : Average on-state current versus case temperature (BTW 66).

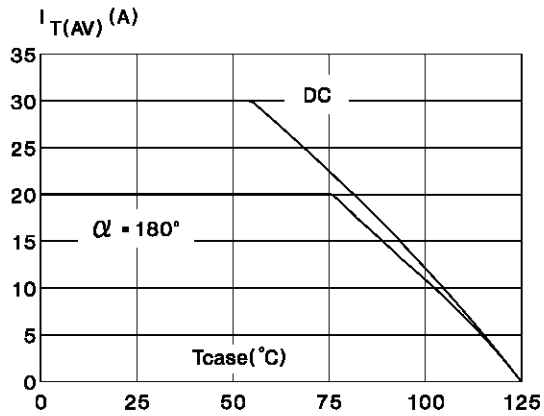


Fig.6 : Average on-state current versus case temperature (BTW 67).

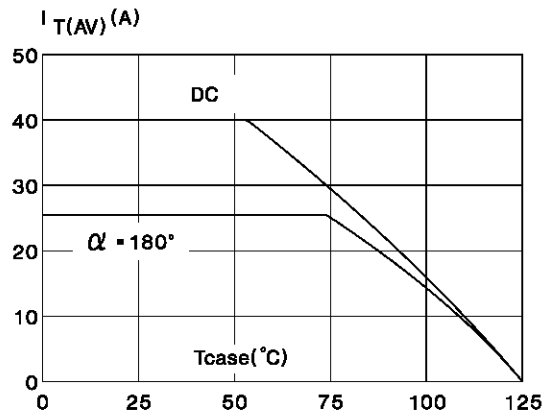


Fig.7 : Relative variation of thermal impedance junction to case versus pulse duration.

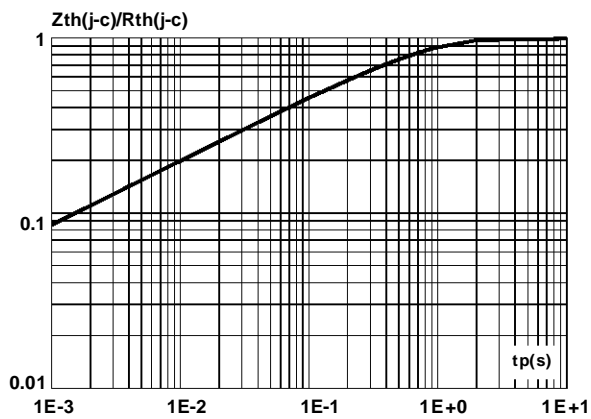


Fig.8 : Relative variation of gate trigger current versus junction temperature.

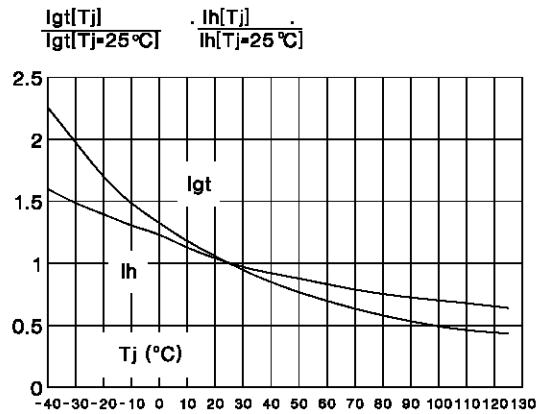


Fig.9 : Non repetitive surge peak on-state current versus number of cycles (BTW 66).

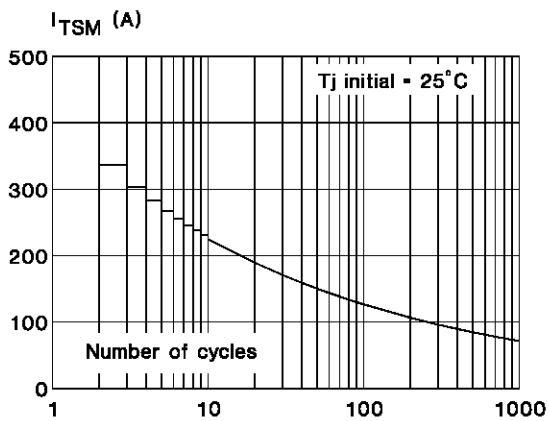


Fig.10 : Non repetitive surge peak on-state current versus number of cycles (BTW 67).

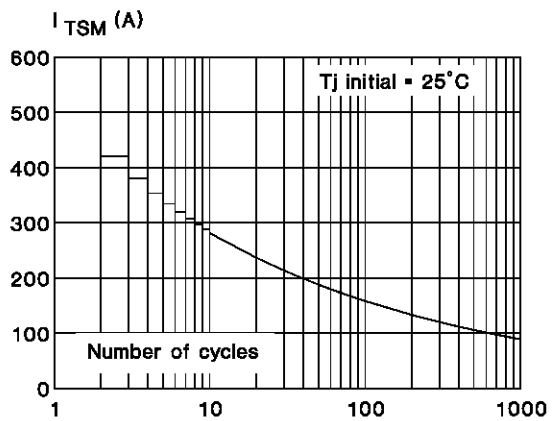


Fig.11 : Non repetitive surge peak on-state current for a sinusoidal pulse with width : $t \leq 10$ ms, and corresponding value of I^2t (BTW 66).

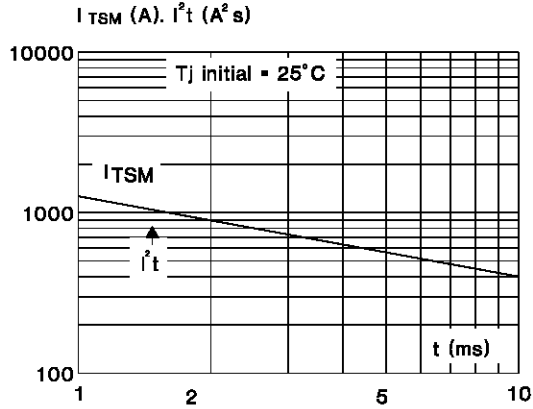


Fig.12 : Non repetitive surge peak on-state current for a sinusoidal pulse with width : $t \leq 10$ ms, and corresponding value of I^2t (BTW 67).

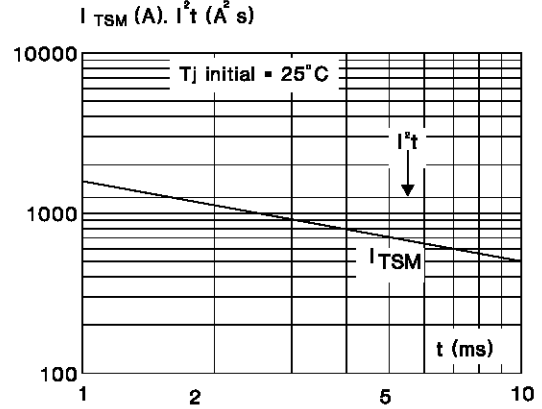


Fig.13 : On-state characteristics (maximum values) (BTW 66).

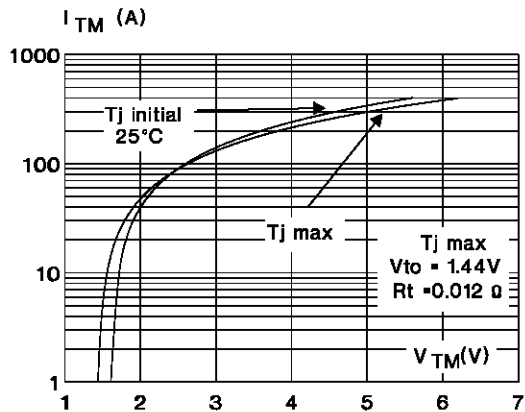
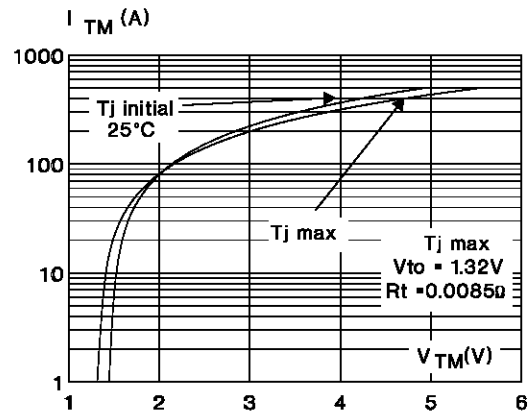


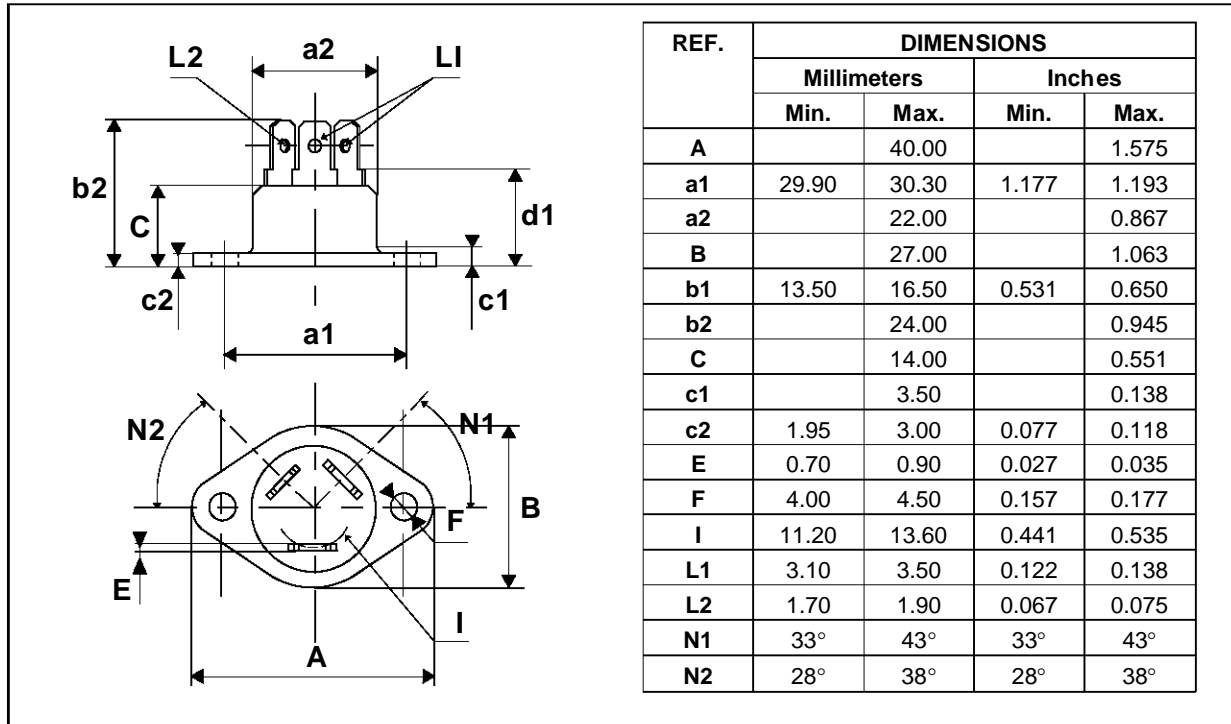
Fig.14 : On-state characteristics (maximum values) (BTW 67).



BTW 66 / BTW 67

PACKAGE MECHANICAL DATA

RD 91 Plastic



Marking : type number
Weight : 20 g

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