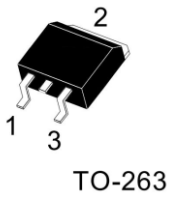
T1650H-800NBL

Silicon Controlled Rectifier

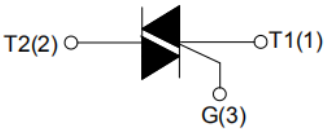
Features



TO-263

- Blocking Voltage to 800V
- Glass Passivated Surface for Reliability and Uniformity
- RoHS Compliant & HF
- High Dv/Dt Rate
- $I_{T(RMS)}$ to 16A of Triacs
- High Junction Temperature and High Environment Temperature Condition

Pin Configuration



Absolute Maximum Ratings（Tc=25℃ Unless otherwise specified）

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40~150	℃
Operating junction temperature range	T_j	-40~150	℃
Repetitive peak off-state voltage (Tj=25℃)	V_{DRM}	800	V
Repetitive peak reverse voltage (Tj=25℃)	V_{RRM}	800	V
RMS on-state current	$I_{T(RMS)}$	16	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	160	A
I^2t value for fusing (tp=10ms)	I^2t	128	A^2s
Critical rate of rise of on-state current (IG=2×IGT)	dI/dt	50	A/μs
Peak gate current	I_{GM}	4	A
Average gate power dissipation	$P_{G(AV)}$	1	W

Peak gate power	P_{GM}	5	W
Thermal Resistance(between Junction and Case)	$R_{\theta(J-C)}$	1.2（Typ.）	℃/W

Electronics Characteristics（Tc=25℃ Unless otherwise specified）

3 Quadrants：

Parameter	Symbol	Quadrant		Value	Unit
				T1650	
Gate Trigger Current (Continuous dc) @VD=12V, RL=33Ω	I_{GT}	Ⅰ-Ⅱ-Ⅲ	MAX	50	mA
Gate Trigger Voltage (Continuous dc) @VD=12V, RL=33Ω	V_{GT}			1.3	V
Gate non-trigger voltage@VD=VDRM	V_{GD}	Ⅰ-Ⅱ-Ⅲ	MIN	0.2	V
Holding Current@IT=500mA	I_H	-	MAX	50	mA
Latching Current@IG=1.2IGT	I_L	Ⅰ-Ⅲ	MAX	100	mA
		Ⅱ		100	
Critical Rate-of-Rise of Off State Voltage @VD=0.66×VDRM, Tj=150℃,Gate Open	dV/dt	-	MIN	1000	V/μs
Peak Forward On-State Voltage @ITM=22.5A,tp=380μs, Tj=25℃	V_{TM}	-	MAX	1.55	V
Peak Repetitive Forward @VDRM=VRRM,Tj=25℃	I_{DRM}	-	MAX	5	μA
Reverse Blocking Current @VDRM=VRRM,Tj=125℃	I_{RRM}	-	MAX	2	mA

Note: The above typical parameters or typical characteristics are only indicative and do not make specific guarantees. If detailed values are required, additional communication and provision are required.

FIG.1: Maximum power dissipation versus RMS on-state current

P(w)

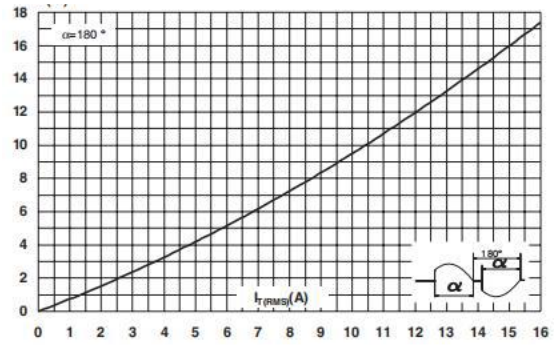


FIG.2: RMS on-state current versus case temperature in different packaging

$I_{T(RMS)}$(A)

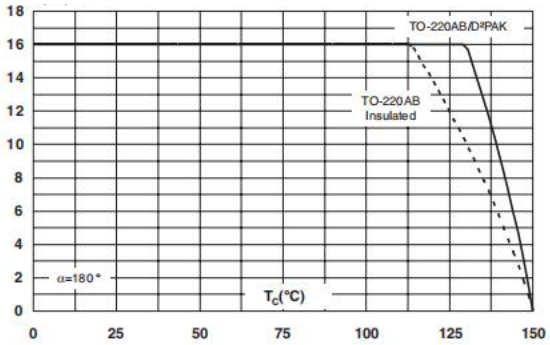


FIG.3: Surge peak on-state current versus number of cycles

$I_{TSM(A)}$

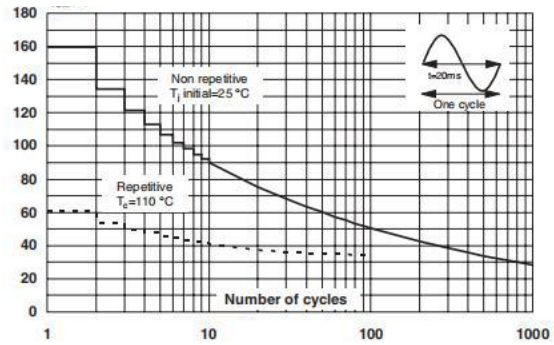


FIG.4:On-state characteristics (maximum values)

$I_{TM(A)}$

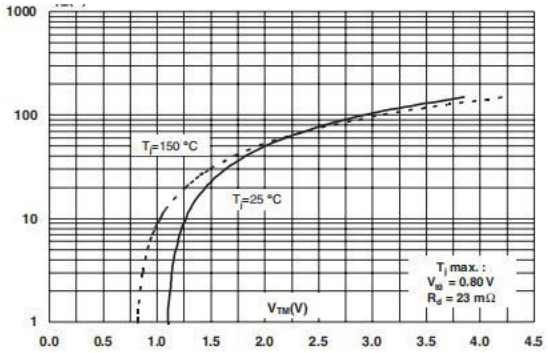


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms, and corresponging value of I^2t (Ⅰ - Ⅱ -Ⅲ:dI/dt < 50A/μs;Ⅳ:dI/dt < 10A/μs)

I_{TSM}(A),I^2t（A^2s）

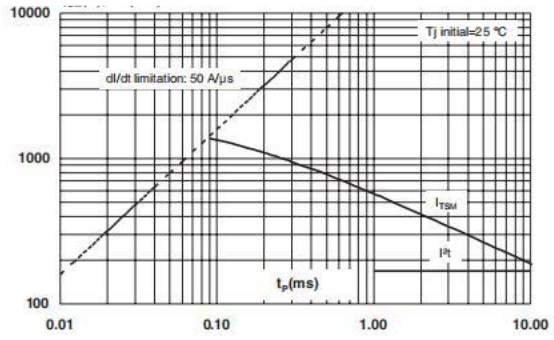
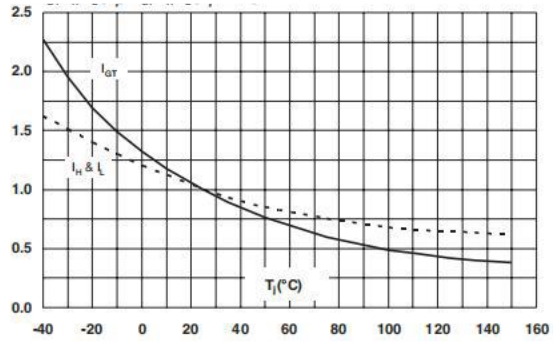


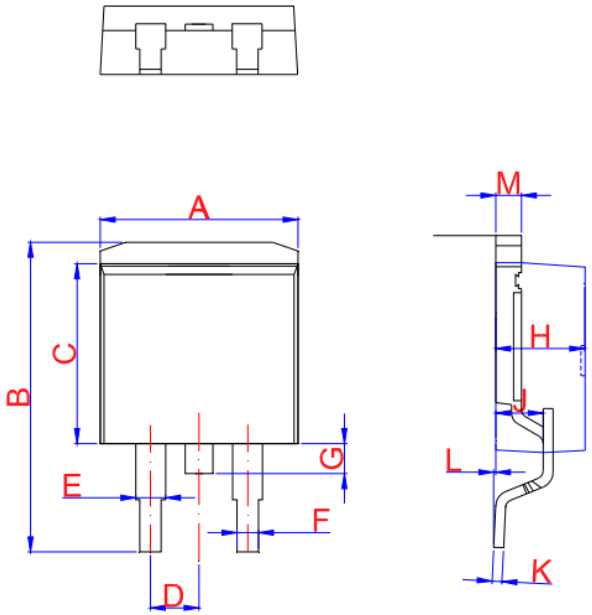
FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

I_{GT},I_H,I_L(Tj)/I_{GT},I_H,I_L(Tj=25℃)

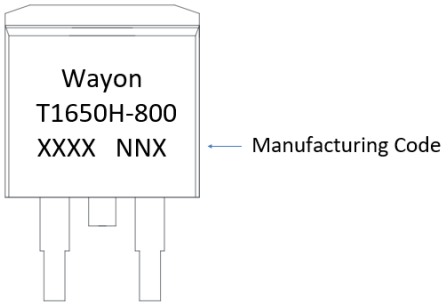


Outline Drawing

SYMBOL	MM		
	MIN	NOM	MAX
A	9.86	-	10.50
B	14.61	-	15.88
C	8.45	-	9.60
D	-	2.54	-
E	1.17	-	1.75
F	0.70	-	0.96
G	-	-	1.75
H	4.24	4.60	4.89
J	2.20	2.60	2.90
L	0	0.10	0.25
M	1.17	1.27	1.42
K	0.30	-	0.55



Marking Code



Package Information

Package	Base qty.	Delivery mode
TO-263	800	Reel

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Product Specification Statement

The product specification aims to provide users with a reference regarding various product parameters, performance, and usage. It presents certain aspects of the product's performance in graphical form and is intended solely for users to select product and make product comparisons, enabling users to better understand and evaluate the characteristics and advantages of the product. It does not constitute any commitment, warranty, or guarantee.

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