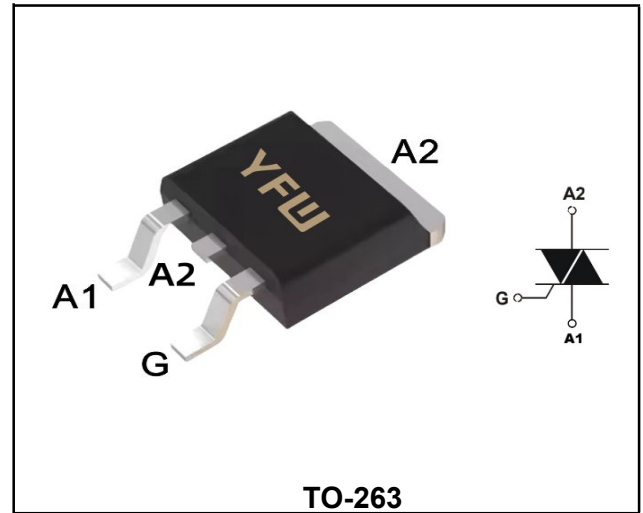


**16A 4Quadrants TRIACs**

**Product Summary**

Symbol	Value	Unit
$I_{T(RMS)}$	16	A
$V_{DRM} V_{RRM}$	600/800	V
$V_{TM}$	1.50	V



**Features**

With high ability to withstand the shock loading of large current, Provide high dv/dt rate with strong resistance to electromagnetic interference

**Application**

Power charger, T-tools, massager, solid staterelay, AC Motor speed regulation and so on.

**Absolute maximum ratings (Ta=25°C unless otherwise noted)**

Parameter	Symbol	Value	Unit
Repetitive peak off-state voltage	$V_{DRM}$	600/800	V
Repetitive peak reverse voltage	$V_{RRM}$	600/800	V
RMS on-state current (BTA Tc=80°C, BTB Tc=90°C)	$I_{T(RMS)}$	16	A
Non repetitive surge peak on-state current (t=20ms, F=50Hz)	$I_{TSM}$	160	A
$I^2t$ value for fusing (tp=10ms)	$I^2t$	144	A <sup>2</sup> S
Critical rate of rise of on-state current (Tj=125°C)	di/dt	50	A/μs
Peak gate current (tp=20us, Tj=125°C)	$I_{GM}$	4	A
Average gate power dissipation (Tj=125°C)	$P_G (AV)$	1	W
Junction Temperature	$T_J$	-40-+125	°C
Storage Temperature	$T_{STG}$	-40 ~+150	°C

Electrical characteristics (TA=25°C, unless otherwise noted)

Parameter	Symbol	Test Condition		Value		Unit
				I, II, III	IV	
Gate trigger current	I <sub>GT</sub>	V <sub>D</sub> =12V R <sub>L</sub> =100Ω	I II III IV	MAX.	≤50	mA
				MAX.	1.5	V
Gate non-trigger voltage	V <sub>GD</sub>	V <sub>D</sub> =V <sub>DRM</sub> T <sub>j</sub> =125°C		MIN.	0.2	V
Holding current	I <sub>H</sub>	I <sub>T</sub> =0.5A	-	MAX.	60	mA
latching current	I <sub>L</sub>	I <sub>G</sub> =1.2I <sub>GT</sub>	I - III	MAX.	60	mA
			I - II	MAX.	100	mA
Critical-rate of rise of commutation voltage	dV/dt	V <sub>D</sub> =2/3V <sub>DRM</sub> T <sub>j</sub> =125°C		MIN.	500	V/μs

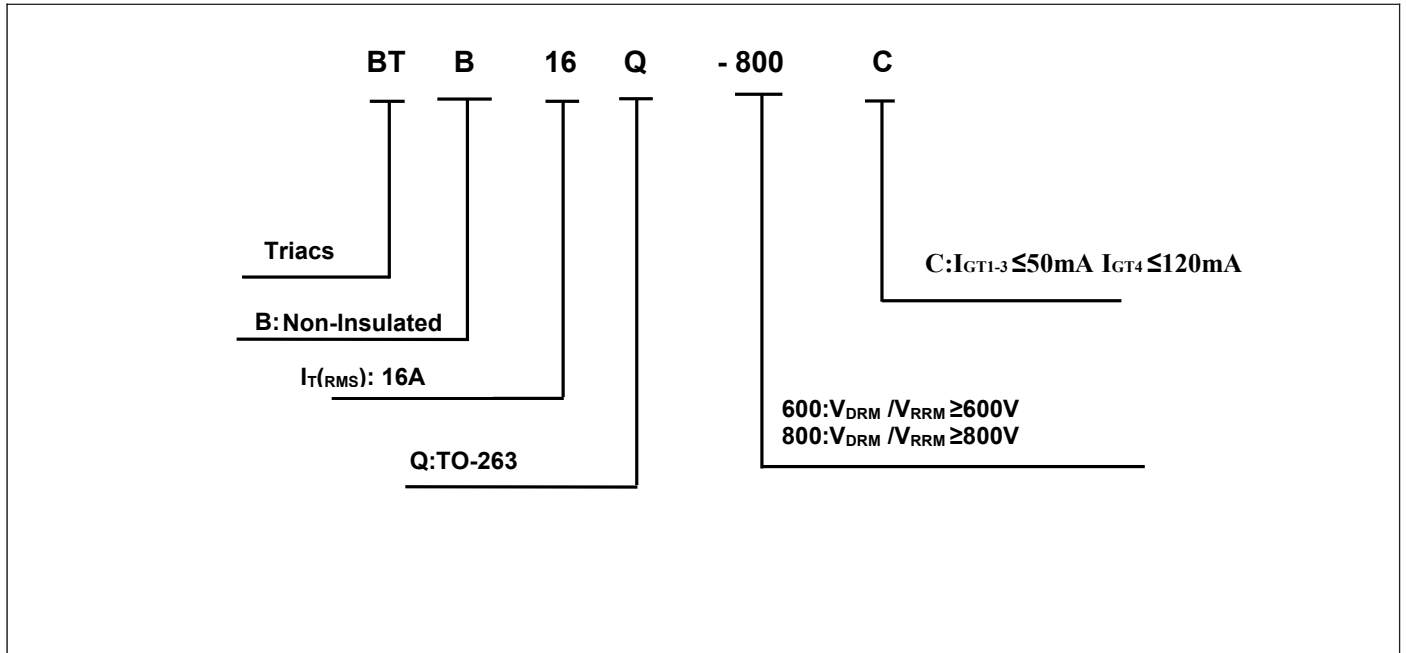
**STATIC CHARACTERISTICS**

Forward "on" voltage	V <sub>TM</sub>	I <sub>TM</sub> = 32A		MAX.	1.50	V
Repetitive Peak Off-State Current	I <sub>DRM</sub>	V <sub>D</sub> =V <sub>DRM</sub> V <sub>R</sub> =V <sub>RRM</sub>	T <sub>j</sub> =25°C	MAX.	5	μA
Repetitive Peak Reverse Current	I <sub>RRM</sub>		T <sub>j</sub> =125°C	MAX.	1	mA

**THERMAL RESISTANCES**

Thermal resistance	R <sub>th(j-c)</sub>	Junction to case	BTA	2.1	°C/W
	R <sub>th(j-a)</sub>	Junction to ambient	BTB	1.3	°C/W

**Ordering Information**



Typical Characteristics

FIG.1: Maximum power dissipation versus RMS on-state current (full cycle)

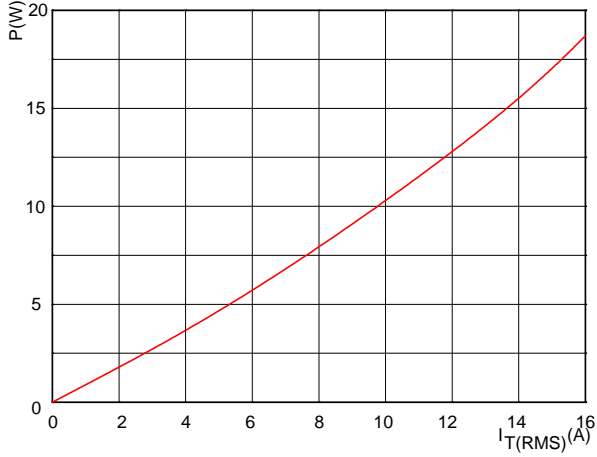


FIG.2: RMS on-state current versus case temperature (full cycle)

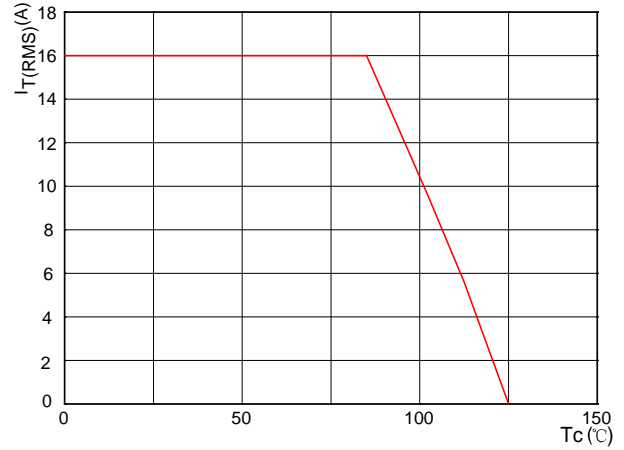


FIG.3: Surge peak on-state current versus number of cycles

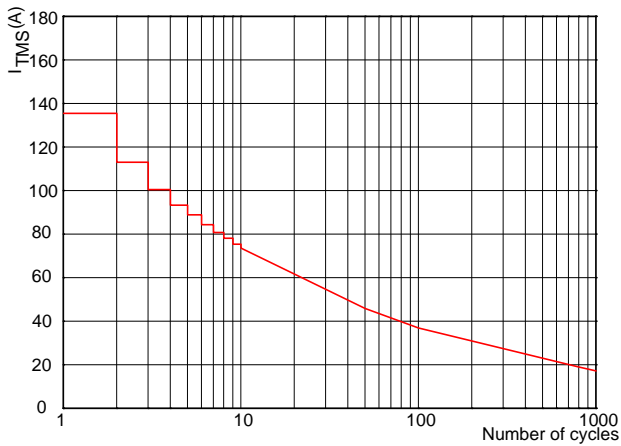


FIG.4: On-state characteristics (maximum values)

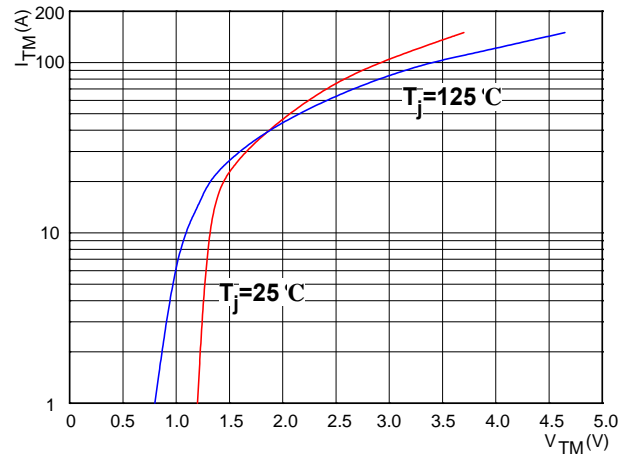


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp < 10ms

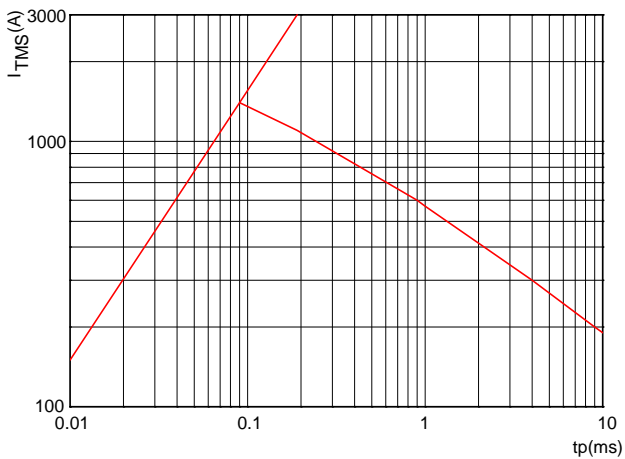
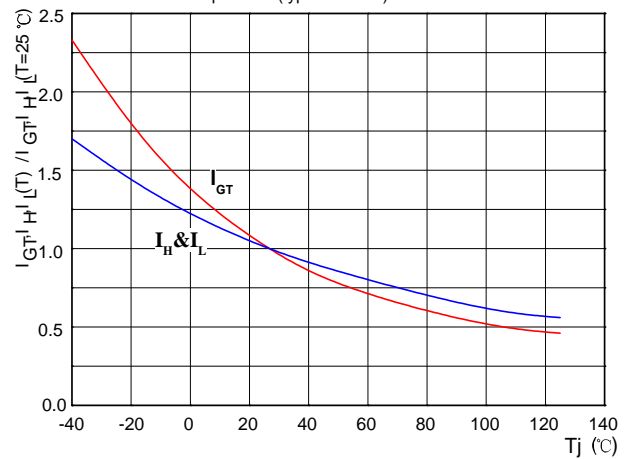
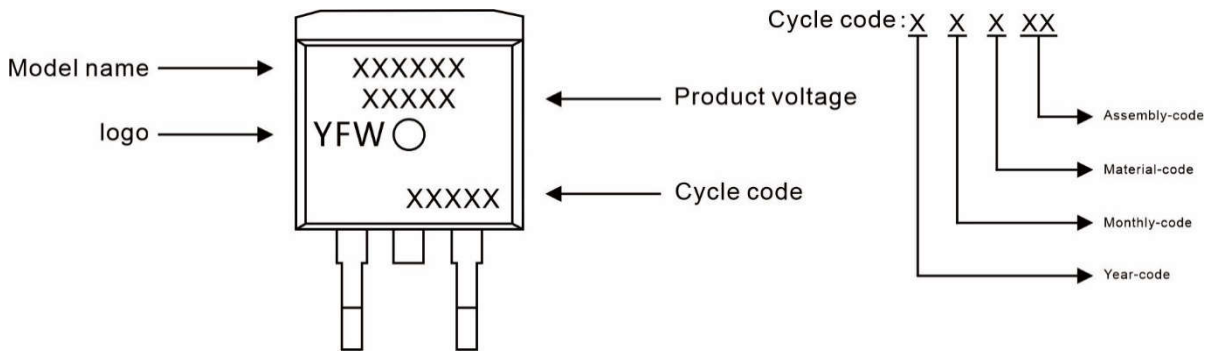


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)



**Marking Diagram**



**Ordering information**

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
BTB16Q	TO-263	0.04oz(1.16g)	800pcs/reel	1600pcs/box 8000pcs/Cartron

**Package Dimensions**

**TO-263**

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.30	4.70	0.169	0.185
A1	0.00	0.15	0.000	0.006
A2	4.30	4.55	0.169	0.179
B	1.10	1.50	0.043	0.059
b	0.70	0.90	0.028	0.035
b1	1.20	1.50	0.047	0.059
c	0.30	0.60	0.012	0.024
c1	1.17	1.37	0.046	0.054
D	9.90	10.40	0.390	0.409
E	8.50	8.90	0.335	0.350
e	2.44	2.64	0.096	0.104
e1	4.88	5.28	0.192	0.208
L	15.00	15.30	0.591	0.602
L1	5.20	5.40	0.205	0.213
L2	2.40	2.60	0.094	0.102
L3	1.60	1.80	0.063	0.071

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