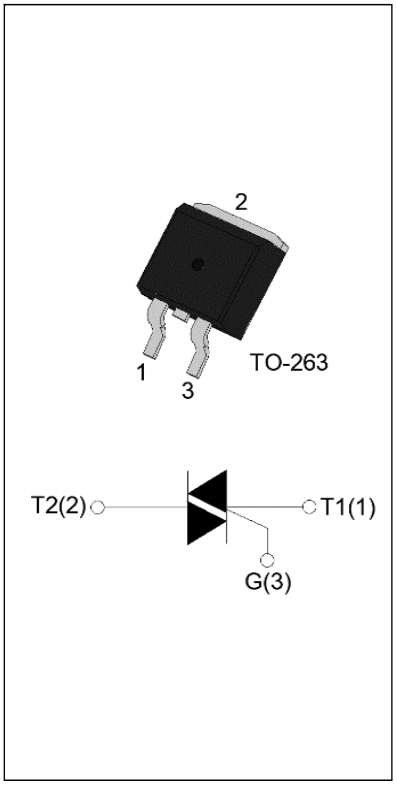
BTB24-800CW-B

MAIN FEATURES 3Q TRIAC

Symbol	Value	Unit
$I_{T(RMS)}$	24	A
V_{DRM} /V_{RRM}	800	V
$I_{GT1/2/3}$	35/35/35	mA



DESCRIPTION:

The BTB24-800CW-B triac is suitable for general purposeAC switching. It can be used as an ON/OFF function inapplications such as heating regulation, induction motorstarting circuits, for phase control operation in lightdimmers, motor speed controllers. BTB24-800CWsnubberless triac is especially recommended for use oninductive loads. Package TO-263 is RoHS compliant.

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	℃
Operating junction temperature range	T_j	-40-125	℃
Repetitive peak off-state voltage (T_j=25℃)	V_{DRM}	800	V
Repetitive peak reverse voltage (T_j=25℃)	V_{RRM}	800	V
RMS on-state current (T_C≤90℃)	$I_{T(RMS)}$	24	A
Non repetitive surge peak on-state current (full cycle , t_p=10ms , T_j=25℃)	I_{TSM}	240	A
I^2t value for fusing (t_p=10ms , T_j=25℃)	I^2t	288	A^2s
Critical rate of rise of on-state current (T_j=125℃)	dI/dt	50	A/μs
Peak gate current (t_p=20μs , T_j=125℃)	I_{GM}	4	A
Average gate power dissipation (T_j=125℃)	$P_{G(AV)}$	1	W

ELECTRICAL CHARACTERISTICS (T_j=25℃ unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
I_{GT}	V_D =12V R_L =100Ω	Ⅰ-Ⅱ-Ⅲ	MAX.	35	mA
V_{GT}		Ⅰ-Ⅱ-Ⅲ	MAX.	1	V
V_{GD}	V_D =V_{DRM} T_j =125℃ R_L =100Ω	Ⅰ-Ⅱ-Ⅲ	MIN.	0.2	V
I_L	I_G =1.2I_{GT}	Ⅰ-Ⅲ	MAX.	80	mA
		Ⅱ		100	
I_H	I_T =500mA		MAX.	80	mA
dV/dt	V_D=2/3V_{DRM} T_j =125℃		MIN.	500	V/μs
(dI/dt)c	T_j=125℃		MIN.	10	A/ms

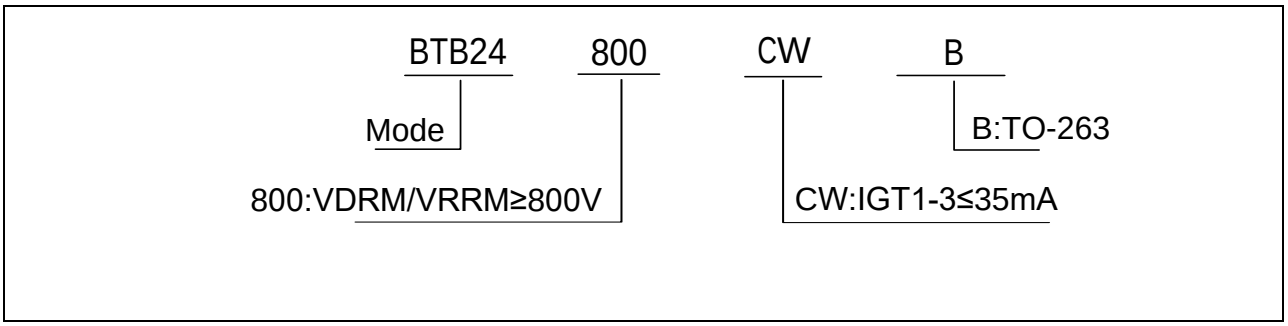
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	I_{TM}=35A tp=380μs	T_j=25℃	1.55	V
V_{TO}	Threshold voltage	T_j=125℃	0.87	V
R_D	Dynamic resistance	T_j=125℃	14.6	mΩ
I_{DRM}	V_D =V_{DRM} V_R =V_{RRM}	T_j=25℃	5	μA
I_{RRM}		T_j=125℃	1	mA

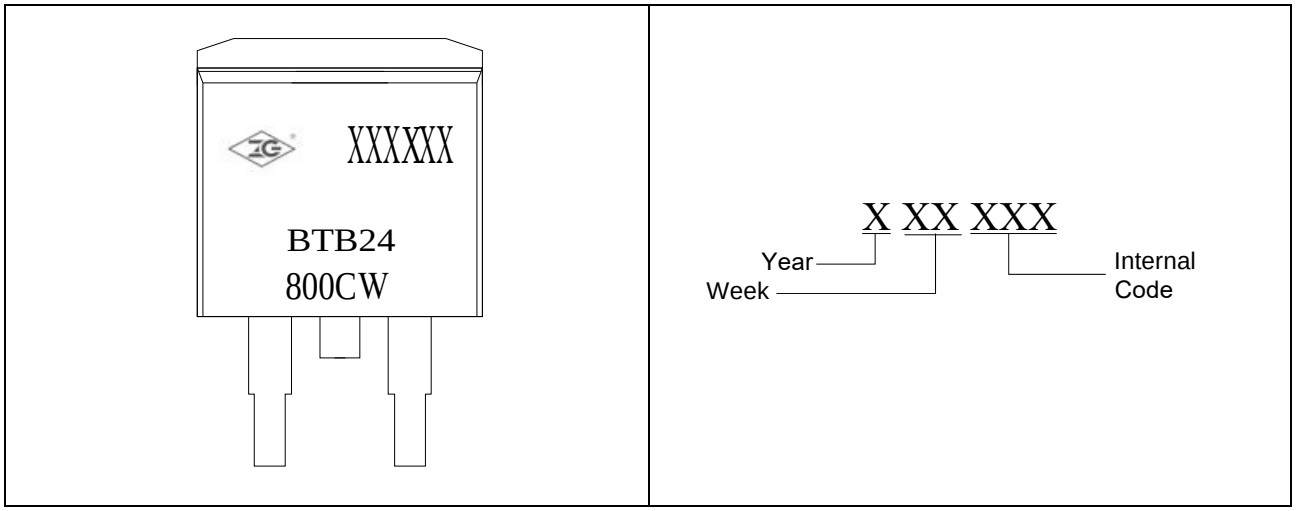
THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (AC)	1.25	℃/W

ORDERING INFORMATION



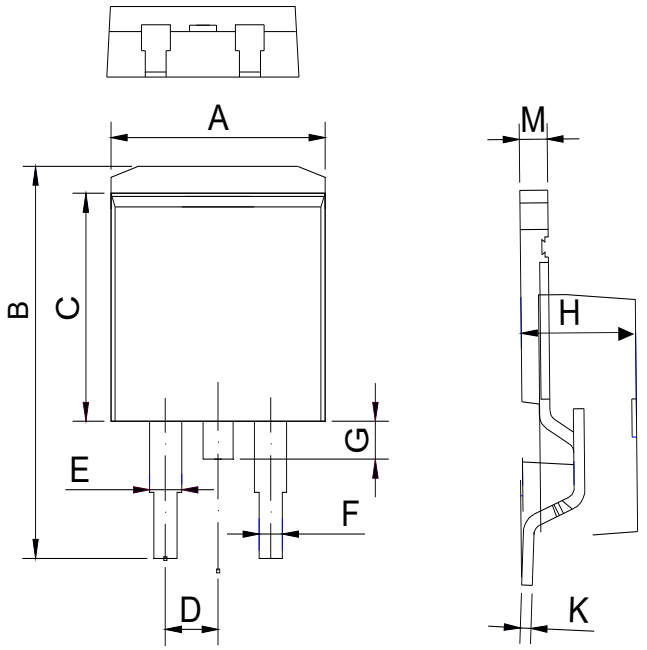
MARKING



ORDERING INFORMATION

Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(mA)	Package	Base qty. (pcs)	Delivery mode
		Ⅰ-Ⅱ-Ⅲ			
BTB24-800CW-B	800	35	TO-263	800	Tube

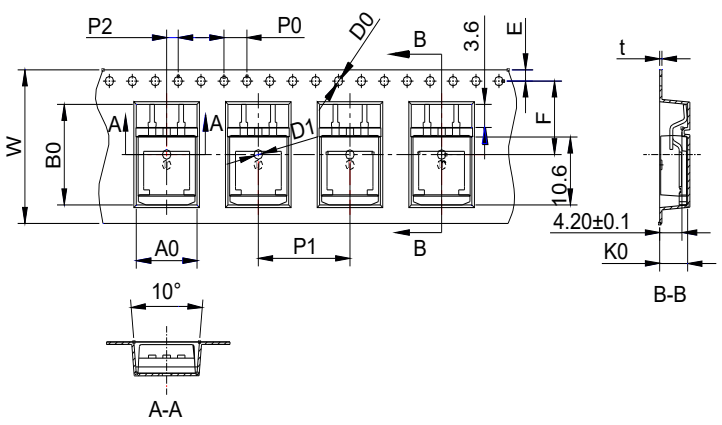
PACKAGE MECHANICAL DATA

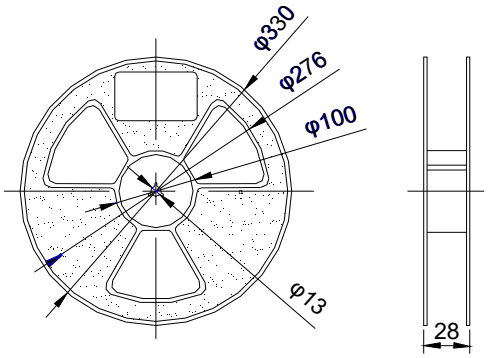


TO-263

Ref.	Dimensions		
	Millimeters		
	Min.	Typ.	Max.
A	9.90	10.10	10.30
B	14.90	15.10	15.30
C	8.50	8.70	8.90
D	/	2.54	/
E	1.14	1.34	1.54
F	0.61	0.81	1.01
G	/	/	1.60
H	/	/	4.80
K	0.18	0.38	0.58
M	1.10	1.30	1.50

DELIVERY MODE





Ref.	Dimensions		
	Millimeters		
	Min.	Typ.	Max.
W	23.70	24.00	24.30
E	1.65	1.75	1.85
F	11.40	11.50	11.60
D0	/	1.50	1.60
D1	/	1.50	1.60
P0	3.90	4.00	4.10
P1	15.90	16.00	16.10
P2	1.90	2.00	2.10
A0	10.80	10.90	11.00
B0	16.20	16.30	16.40
K0	4.80	4.90	5.00
T	0.35	0.40	0.45

PACKAGE	OUTLINE	REEL (PCS)	PER CARTON (PCS)
TO-263	TAPING	800	4,000

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

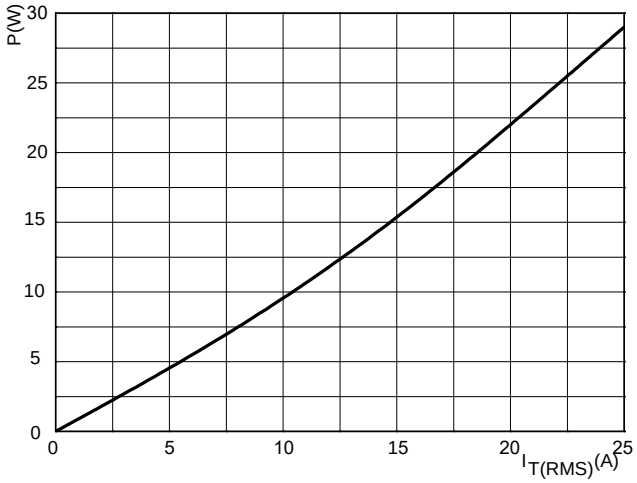


FIG.2: RMS on-state current versus case temperature (full cycle)

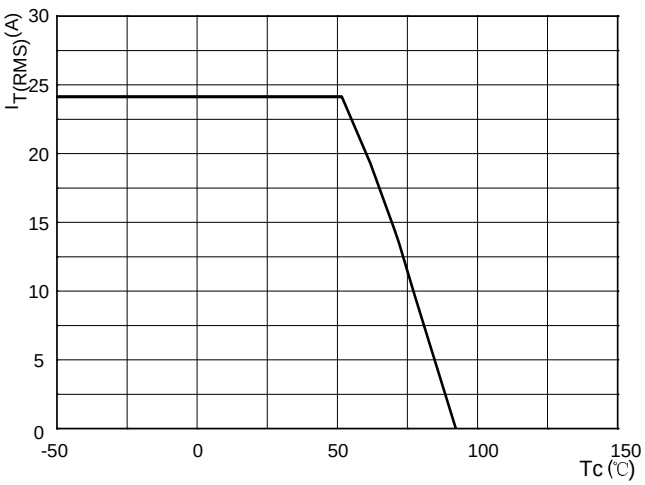


FIG.3: Surge peak on-state current versus number of cycles

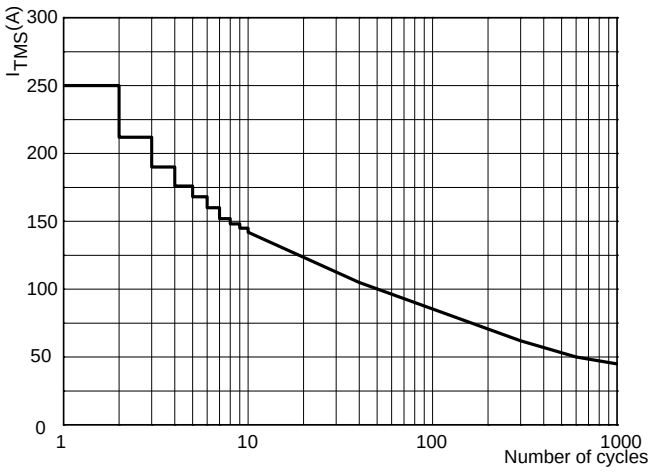


FIG.4: On-state characteristics (maximum values)

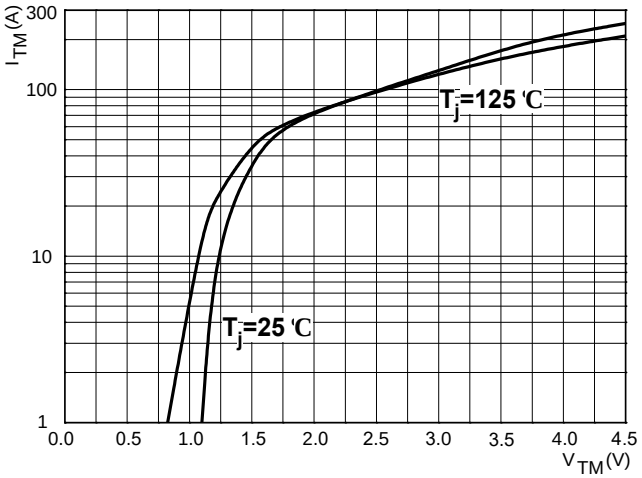


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp < 10ms

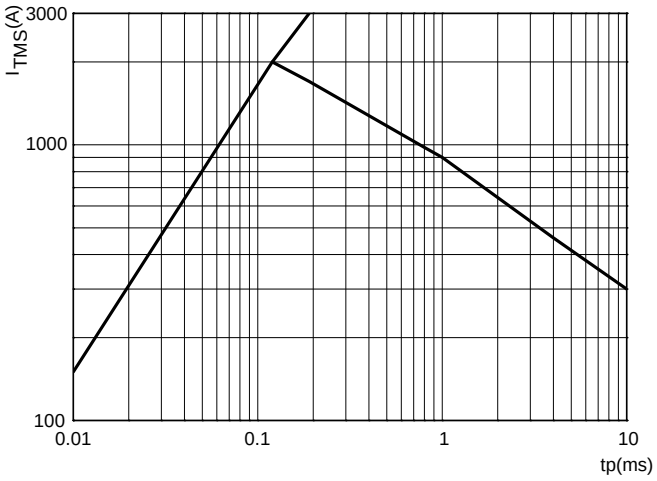


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)

