

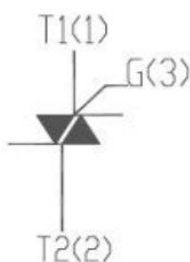
Features

- High current triac
- Low thermal resistance with clip bonding
- High commutation (4 quadrant) or very high commutation (3 quadrant) capability

VOLTAGE 600/800 V

CURRENT 4.0 A

GK XXX
BT136S 600/800x



TO-252

LOGO GK XXX CODE

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

ELECTRICAL CHARACTERISTICS (T_j = 25°C, unless otherwise specified)

Symbol	Parameter	Conditions	Ratings	Unit
V _{DRM} V _{RRM}	Repetitive Peak Off-State Voltage	BT136S-600	600	V
		BT136S-800	800	
I _{T(RMS)}	R.M.S On-State Current	T _c =110°C	4	A
I _{TSM}	Surge On-State Current	t _p =16.7ms/t _p =10ms	25/27	A
I ² t	I ² t for fusing	T _p =10ms	3.1	A ² s
P _{G(AV)}	Average Gate Power Dissipation	T _j =125°C	1	W
I _{GM}	Peak Gate Current	t _p =20us T _j =125°C	2	A
T _j	Operating Junction Temperature		~40~125	°C
T _{STG}	Storage Temperature		~40~150	°C

Electrical Characteristics (Tj=25°C unless otherwise specified)

Symbol	Parameter	Test Conditions	Value				Unit
			D	E	F	G	
IDRM	Repetitive Peak Off-State Current	Tj=25°C	≤10				uA
		Tj=125°C	≤0.5				mA
IRRM	Repetitive Peak Reverse Current	Tj=25°C	≤10				uA
		Tj=125°C	≤0.5				mA
VTM	Forward "on" voltage	IT=5A tp=380us	≤1.7				V
VGD	gate non-trigger voltage	VD=12V, Tj=125°C	≥0.2				V
IH	Holding current	IT=100mA	≤10	≤25	≤30	≤60	mA
VGT	Gate trigger voltage	VD=12V	≤1.5				V
IGT	Gate trigger current	VD=12V, IGT=0.1A	5	10	25	50	mA
			10	25	70	100	mA
di/dt	Critical-rate of rise of commutation current.	IT=6A, IGT=0.2A, dIg/dt=0.2A/us	≥50				A /us
			≥10				A /us
dv/dt	Critical-rate of rise of commutation voltage	TJ=125°C VD=2/3VDRM Gate	5	10	50	200	V/us

RATING AND CHARACTERISTIC CURVES

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

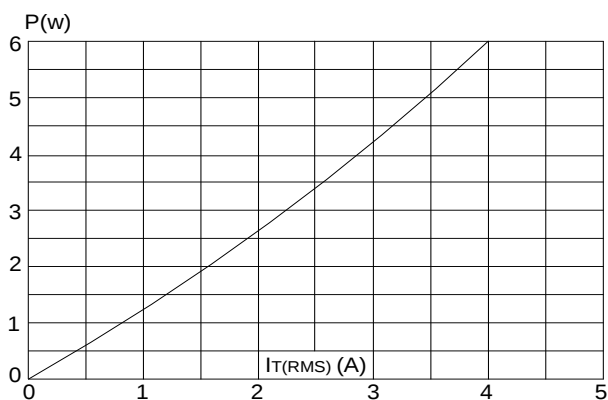


FIG.2: RMS on-state current versus case temperature

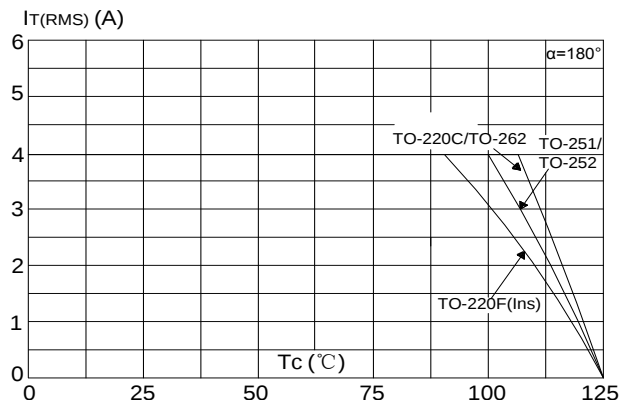


FIG.3: Surge peak on-state current versus number of cycles

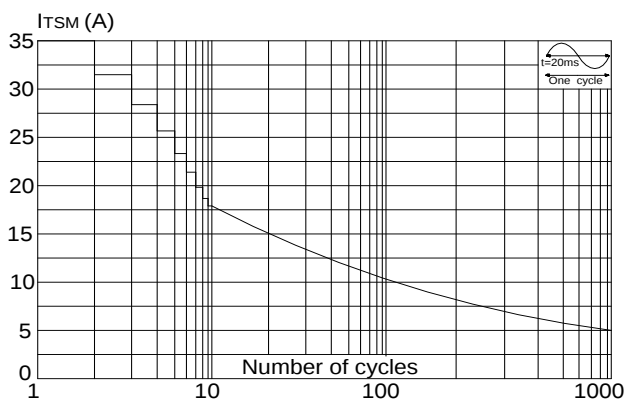


FIG.4: On-state characteristics (maximum values)

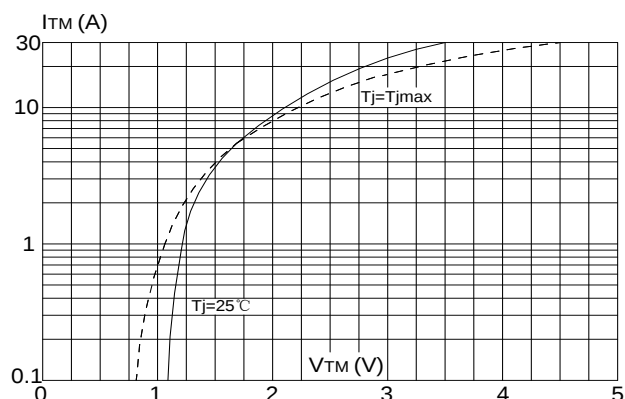


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I_t ($di/dt < 100\text{A}/\mu\text{s}$)

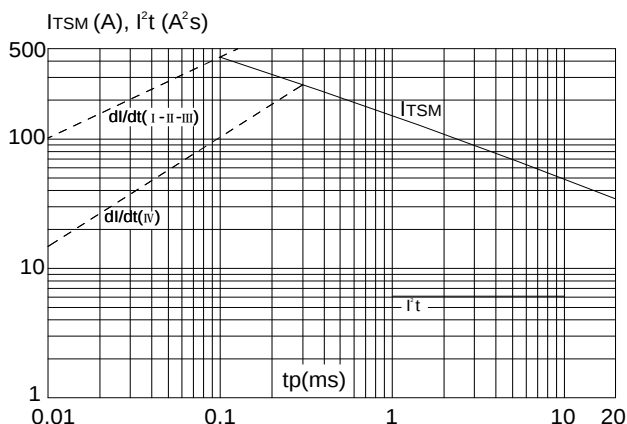
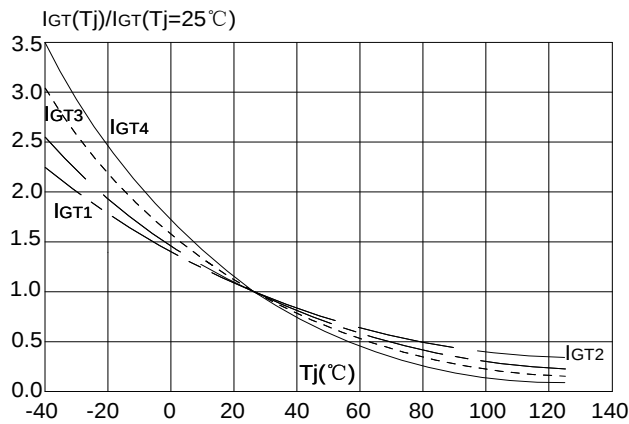


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



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FIG.7: Relative variations of holding current versus junction temperature

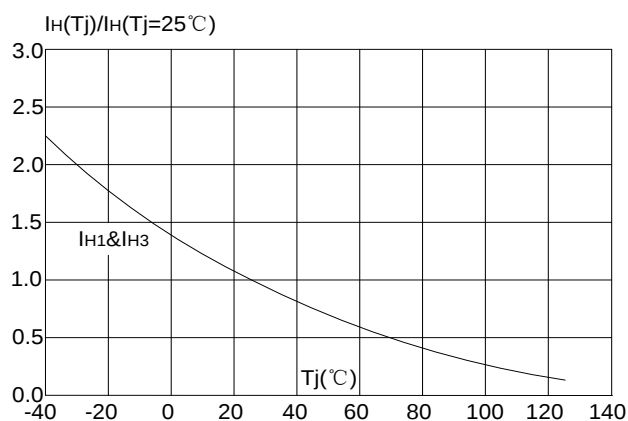
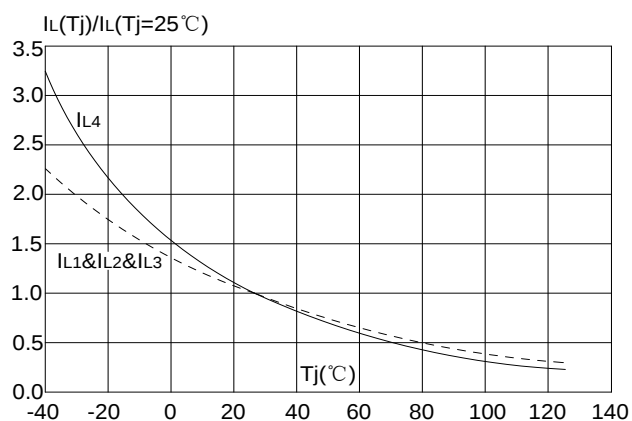
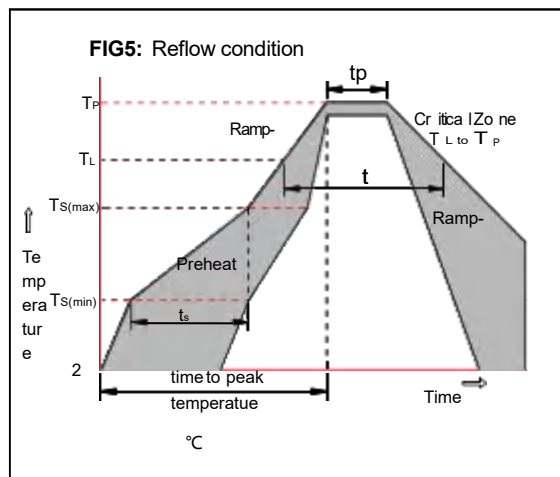


FIG.8: Relative variations of latching current versus junction temperature



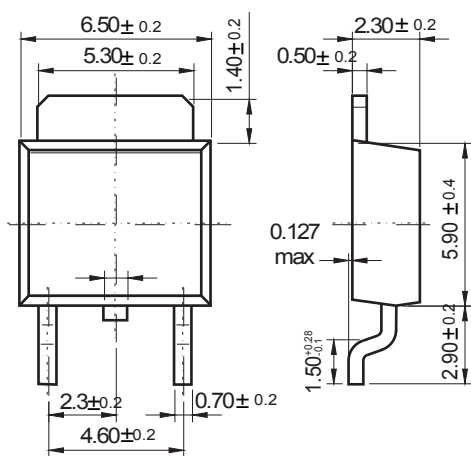
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150 °C
	-Temperature Max($T_{s(max)}$)	+200 °C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3 °C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3 °C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217 °C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5) °C
Time within 5 °C of actual Peak Temp (t_P)		30 secs. Max
Ramp-down Rate		6 °C/sec. Max
Time 25 °C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260 °C

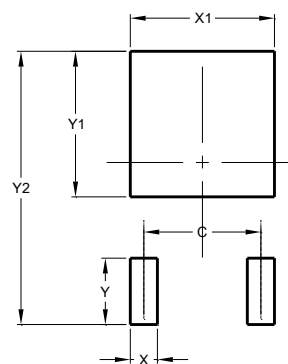


Package Dimensions & Suggested Pad Layout

TO-252

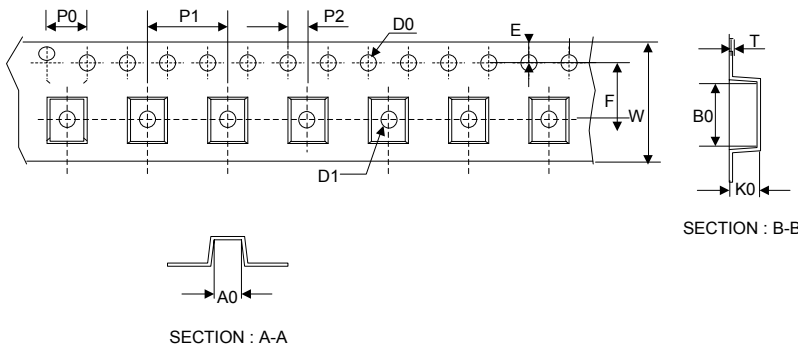
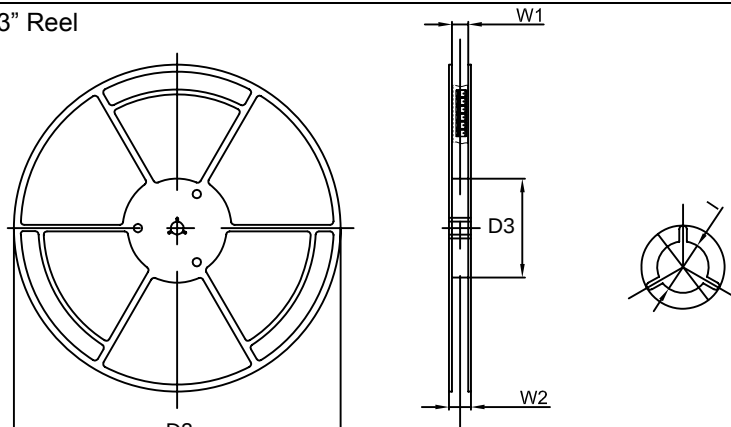


Dimensions in inches and (millimeters)



Dimensions	Value (in mm)
C	4.55
X	1.50
X1	5.80
Y	2.70
Y1	6.00
Y2	10.90

Tape & reel specification

Tape		Symbol	Dimension (mm)
		P0	4.00±0.20
		P1	8.00±0.20
		P2	2.00±0.20
		D0	1.55±0.15
		D1	1.55±0.20
		E	1.75±0.20
		F	7.50±0.20
		W	16.00±0.20
		A0	7.10±0.20
		B0	10.50±0.20
		K0	2.70±0.20
		T	0.30±0.10
		D2	330.0±5.0
		D3	100.0±4.0
		W1	20.0±5.0
13" Reel		W2	25.0±5.0
		I	13.0±2.0
		Quantity: 2500PCS	