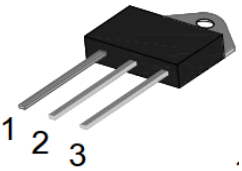
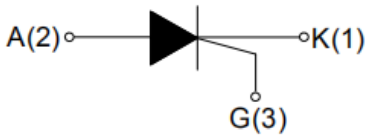
BT6050-1200E

Silicon Controlled Rectifier

Features

- Blocking Voltage to 1200 V
- High Dv/Dt Rate
- $I_{T(RMS)}$ to 60A of SCR
- RoHS Compliant & HF
- Very high current surge capability





Mechanical Data

Case: TO-3P（Ins）

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	-40~125	℃
Repetitive peak off-state voltage (Tj=25℃)	V_{DRM}	1200	V
Repetitive peak reverse voltage (Tj=25℃)	V_{RRM}	1200	V
RMS on-state current	$I_{T(RMS)}$	60	A
Average on-state current (180° conduction angle)	$I_{T(AV)}$	38	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	700	A
I^2t value for fusing (tp=10ms)	I^2t	2450	A^2s
Critical rate of rise of on-state current (IG=2×IGT)	dI/dt	100	A/μs
Peak gate current	I_{GM}	8	A
Average gate power dissipation	$P_{G(AV)}$	1	W
Thermal Resistance(between Junction and Case)	$R_{\theta(J-C)}$	0.7（Typ.）	℃/W

Electronics Characteristics（Tc=25℃ Unless otherwise specified）

Parameter	Symbol	Min	Typ.	Max.	Unit
Gate Trigger Current (Continuous dc)@VD=12V, RL=33Ω	I_{GT}	8	-	50	mA
Gate Trigger Voltage (Continuous dc) @VD=12V, RL=33Ω	V_{GT}	-	-	1.3	V
Gate non-trigger voltage@VD=VDRM,Tj=125℃	V_{GD}	0.2	-	-	V
Holding Current@IT=500mA	I_H	-	-	100	mA
Latching Current@IG=1.2IGT	I_L	-	-	150	mA
Critical Rate-of-Rise of Off State Voltage@VD=0.66×VDRM, Tj=125℃,Gate Open	dV/dt	2000	-	-	V/μs
Peak Forward On-State Voltage@ITM=120A,tp=380μs, Tj=25℃	V_{TM}	-	-	1.8	V
Peak Repetitive Forward@VDRM=VRRM,RGK=1KΩ,Tj=25℃	I_{DRM}	-	-	10	μA
Reverse Blocking Current@VDRM=VRRM,RGK=1KΩ,Tj=125℃	I_{RRM}	-	-	6.5	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 Average on-state current

P(w)

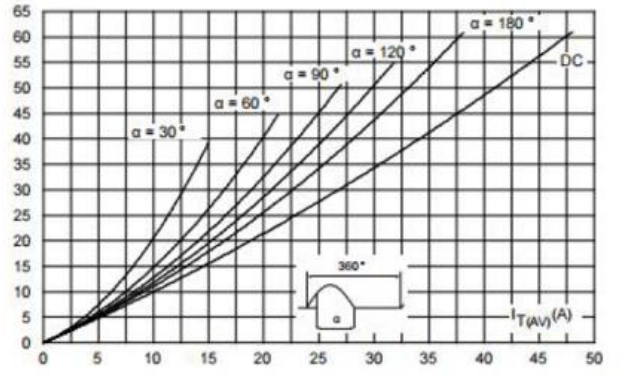


FIG.2: on-state current versus case temperature

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

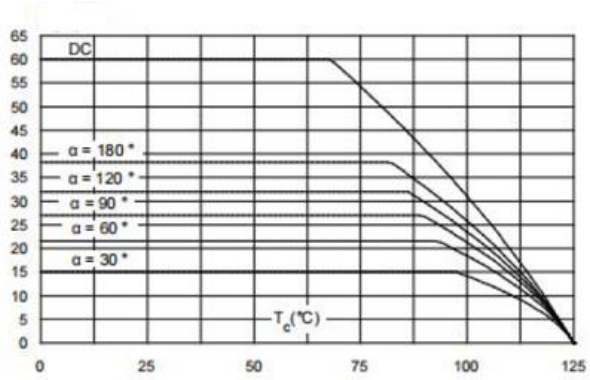


FIG.3: Surge peak on-state current versus number of cycles

$I_{TSM(A)}$

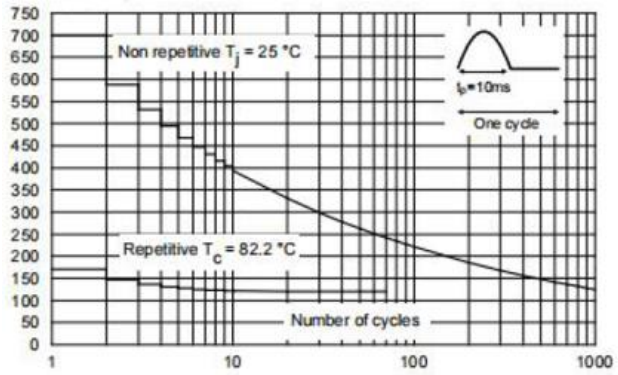


FIG.4:On-state characteristics (maximum values)

$I_{TM(A)}$

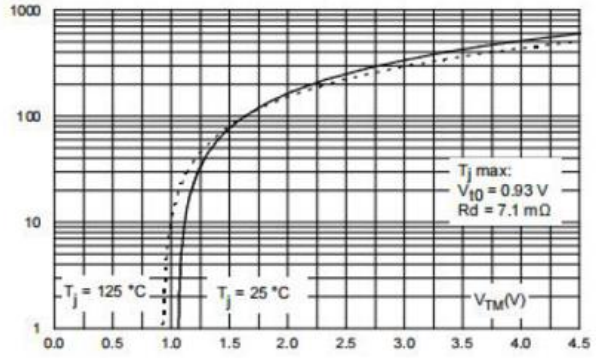
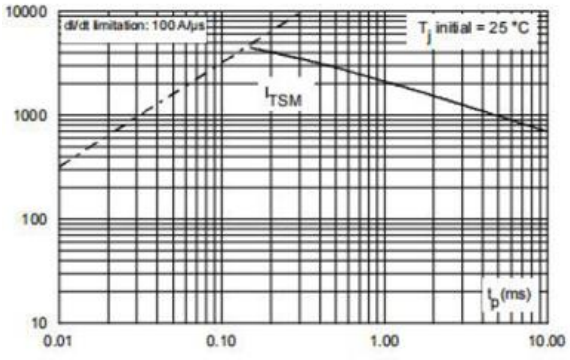


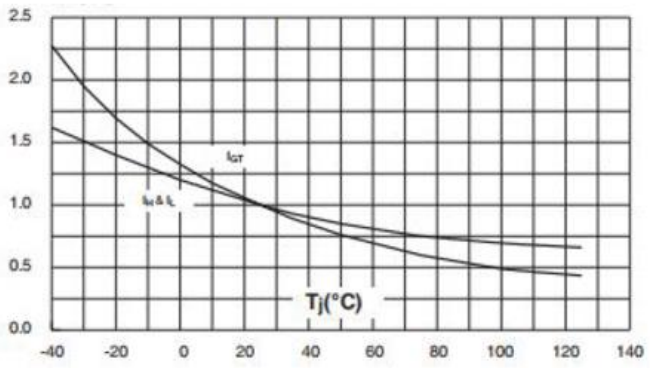
FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<10ms

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

$I_{TSM(A)}$

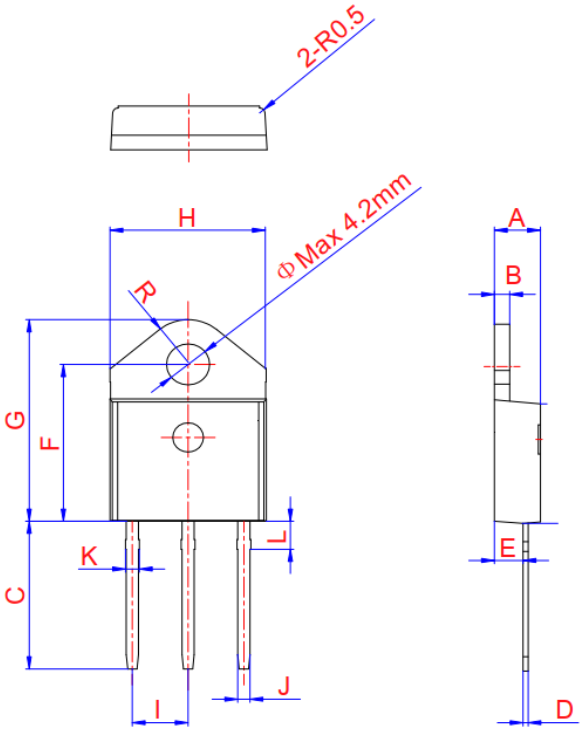


I_{GT},I_H,I_L(Tj)/I_{GT},I_H,I_L(Tj=25℃)

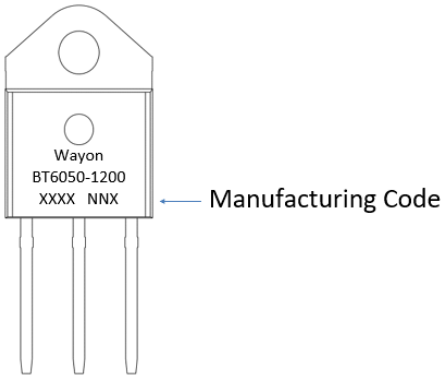


Outline Drawing

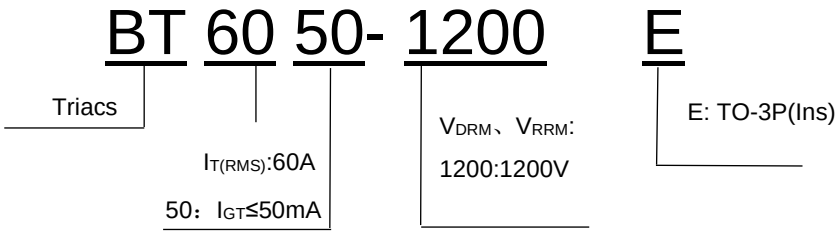
SYMBOL	MM		
	MIN	NOM	MAX
A	4.40	-	4.60
B	1.40	-	1.60
C	14.35	-	15.88
D	0.50	-	0.70
E	2.70	-	2.90
F	15.80	-	16.50
G	20.27	-	21.10
H	15.10	-	15.50
I	-	5.45	-
K	1.10	-	1.45
L	2.68	-	3.08
J	1.10	-	1.40
R	-	4.20	-



Marking Code



Part Number System



Package Information

Package	Base qty.	Delivery mode
TO-3P(Ins)	30	Tube

Contact Information

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