

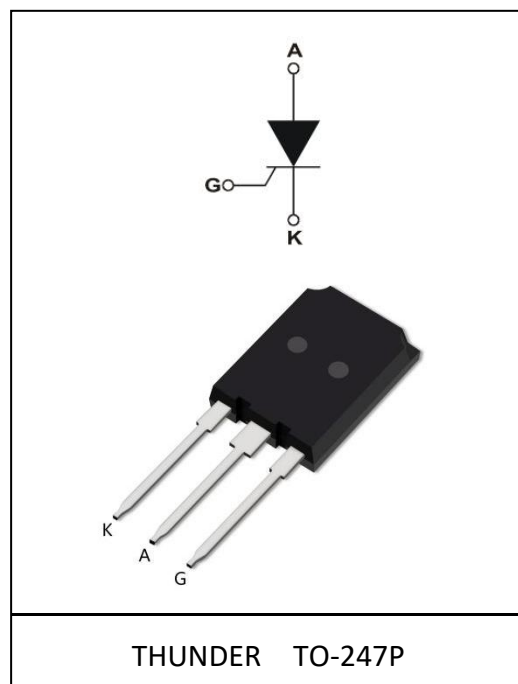
Silicon Controlled Rectifier

Description

BCB125-1600KP, with high ability to withstand the shock loading of large current, provide high dv/dt rate with strong resistance to electromagnetic interference.

Main Features

Product Summary	
V_{DRM}/V_{RRM}	1600V
$I_{T(RMS)}$	125A
I_{GT}	30~80mA



Absolute Maximum Ratings:

Symbol	Parameter	Value	Units
T_{stg}	Storage junction temperature range	-40-150	°C
T_j	Operating Junction Temperature	-40-150	°C
V_{DRM}	Repetitive peak off-state voltage	1600	V
V_{RRM}	Repetitive peak reverse voltage	1600	V
$I_{T(AV)}$	average on-state current	90	A
$I_{T(RMS)}$	RMS on-state current($T_c=25^{\circ}C$)	125	A
I_{TSM}	Non repetitive surge peak on-state voltage($t_p=10ms$)	1250	A
I^2t	I^2t value for fusing ($t_p=10ms$)	7800	A ² S
di/dt	Critical rate of rise of on-state current($I_G=2 \cdot I_{GT}$)	150	A/ μ S
I_{GM}	Peak gate current	4	A
$P_{G(AV)}$	Average gate power dissipation	1	W
P_{GM}	Peak gate power	5	

Electrical Parameters ($T_j=25^{\circ}C$ unless otherwise specified)

Symbol	Test Conditions	Min	Typ	Max	Unit
I_{GT}	$V_D=12V$ $R_L=33\Omega$	30		80	mA
V_{GT}				1.5	V
V_{GD}	$V_D=V_{DRM}$ $T_j=125^{\circ}C$ $R_L=3.3k\Omega$	0.25			V
I_L	$I_G=1.2I_{GT}$	60			mA
I_H	$I_T=1A$	30			mA
dv/dt	$V_D=2/3V_{DRM}$ $T_j=125^{\circ}C$ Gate Open	1000			V/ μ s

Static Characteristics

Symbol	Test Conditions	$T_j (^{\circ}\text{C})$	Min	Typ	Max	Unit
V_{TM}	$I_{TM}=125\text{A}$ $t_p=380\mu\text{s}$	25			1.40	V
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	25			50	μA
I_{RRM}		125			10	mA

Thermal characteristics

Parameter	Symbol	Typ.	Units
Junction-to-Case	$R_{th(j-c)}$	0.3	$^{\circ}\text{C}/\text{W}$

Typical Performance Characteristics

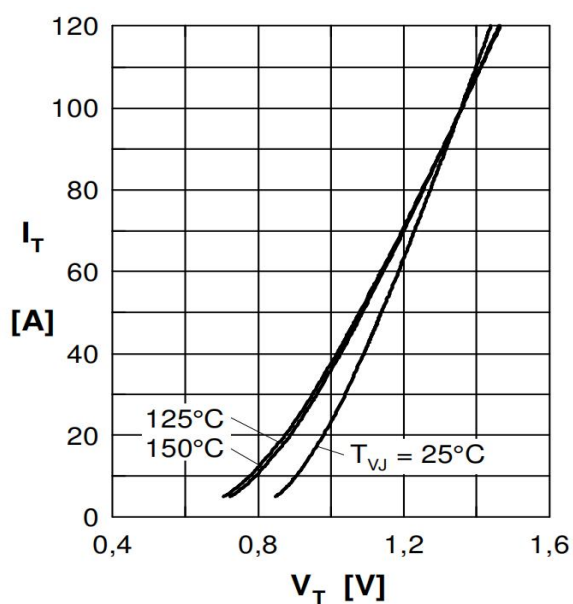


Fig. 1 Forward characteristics

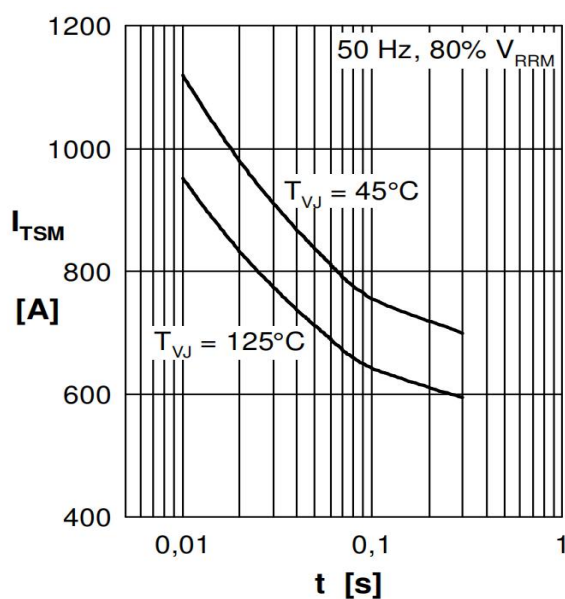


Fig. 2 Surge overload current

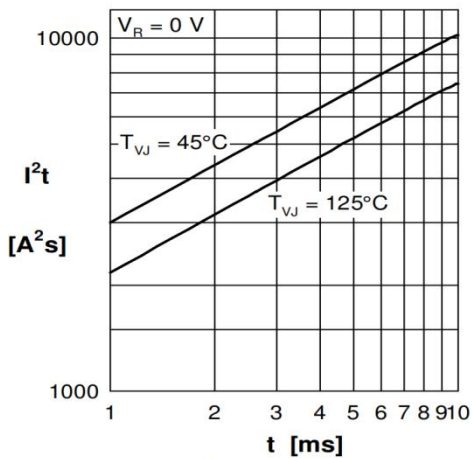


Fig. 3 I^2t versus time (1-10 ms)

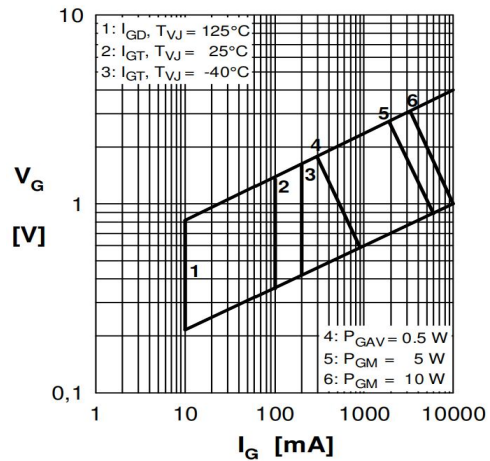


Fig. 4 Gate trigger characteristics

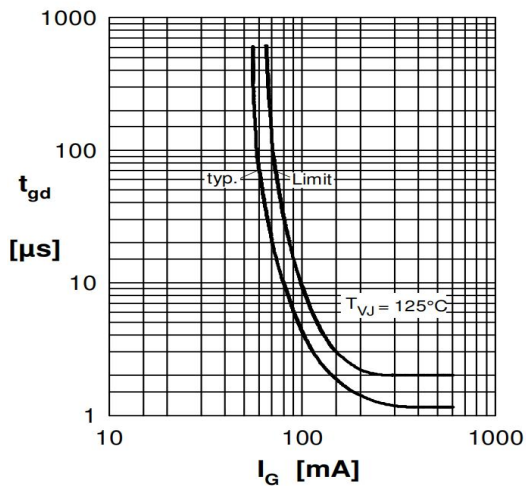


Fig. 5 Gate controlled delay time

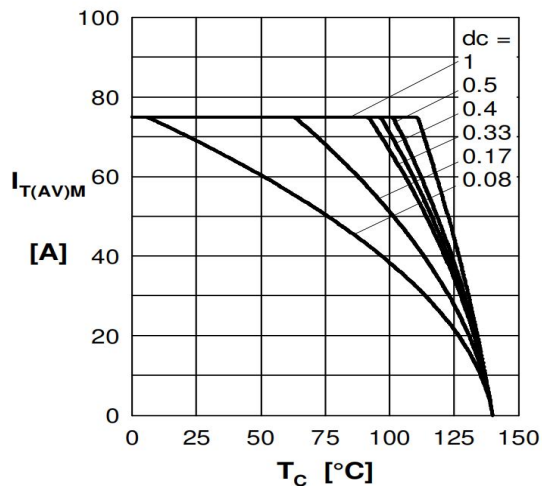


Fig. 6 Max. forward current at case temperature

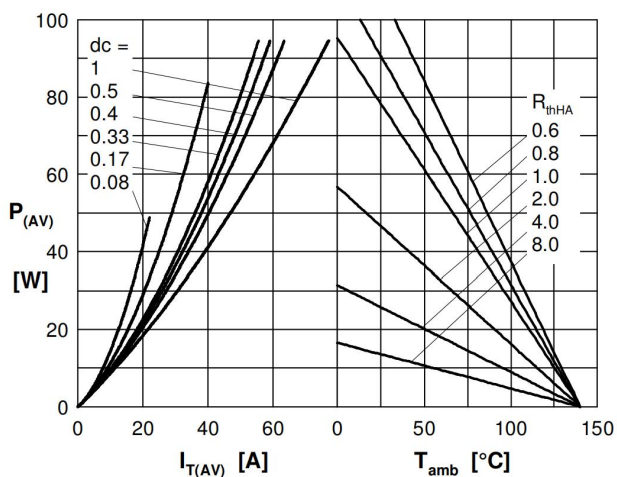


Fig. 7a Power dissipation versus direct output current
Fig. 7b and ambient temperature

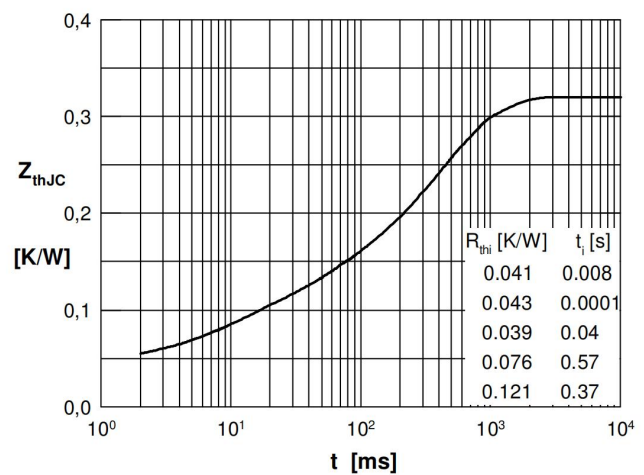
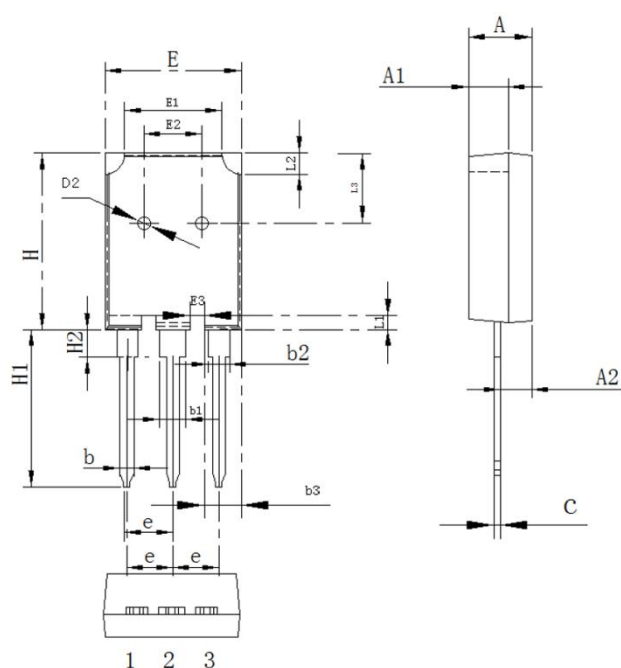


Fig. 8 Transient thermal impedance junction to case

Package Information

TO-247P PACKAGE

基本尺寸



Symbol	单位 mm		
	Min	Nom	Max
A	4.80	5.00	5.20
A1	2.80	3.0	3.20
A2	2.20	2.4	2.60
b	1.00	1.20	1.40
b1	2.90	3.10	3.30
b2	1.90	2.10	2.30
b3	3.90	4.10	4.30
c	0.45	0.60	0.75
e	5.25	5.45	5.65
E	15.6	15.8	16.0
E1	10.2	10.6	11.0
E2	6.30	6.06	6.90
E3	1.60	1.80	2.00
L1	0.35	0.50	0.65
L2	1.80	2.00	2.20
L3	9.50	10.0	10.5
H	20.5	21.0	21.5
H1	19.5	20.0	20.5
H2	3.50	4.00	4.50

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