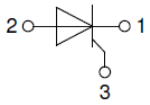
1 2 3



Non-isolated type

Backside:anode

Features：

- **n** Thyristor for line frequency
- **n** Planar passivated chip
- **n** Long-term stability

Typical Applications：

- **n** Softstart AC motor control
- **n** DC Motor control
- **n** Power converter
- **n** AC power control

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	T_j(°C)	VALUE			UNIT
				Min	Type	Max	
$I_{T(RMS)}$	RMS on-state current	180° half sine wave 50Hz T_C=115°C	140			90	A
V_{DRM} V_{RRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	tp=10ms	25			1600	V
I_{DRM} I_{RRM}	Repetitive peak off-state current Repetitive peak reverse current	at V_{DRM}/V_{RRM}	25			200	μA
			140			15	mA
I_{TSM}	Surge on-state current	10ms half sine wave	25			1.40	kA
I^2t	I^2t value for fusing					9.80	kA^2s
I_{TSM}	Surge on-state current		140			1.26	kA
I^2t	I^2t value for fusing					7.94	kA^2s
I_{TSM}	Surge on-state current	8.3ms half sine wave	25			1.49	kA
I^2t	I^2t value for fusing					9.24	kA^2s
I_{TSM}	Surge on-state current		140			1.34	kA
I^2t	I^2t value for fusing					7.5	kA^2s
V_{TM}	Peak on-state voltage	I_{TM}=120A	25			1.50	V
di/dt	Critical rate of rise of on-state current	I_G=2*I_{GT}	140			150	A/μs
dv/dt	Critical rate of rise of off-state voltage	V=2/3V_{DRM} Gate Open	140			1000	V/μs
I_L	Latching current	I_G=1.2 I_{GT}	25			450	mA
I_{GT}	Gate trigger current	V_D=12V R_L=33Ω	25	30		150	mA
V_{GT}	Gate trigger voltage					2.5	V
I_H	Holding current	I_T=1.0A	25			200	mA
V_{GD}	Non-trigger gate voltage	V_D=V_{DRM} R_L=3.3kΩ	140			0.2	V
$P_{G(AV)}$	Average gate power dissipation					0.5	W
P_{GM}	Peak gate power		140			5	W
$R_{th(j-c)}$	Thermal resistance Junction to case					0.32	°C/W
$R_{th(c-h)}$	Thermal resistance case to heatsink					0.15	°C/W

T_{stg}	Storage junction temperature range			-40		140	°C
T_{Vj}	Virtual junction temperature			-40		140	°C
T_{OP}	Operation temperature			-40		125	°C
Outline	TO-247P						

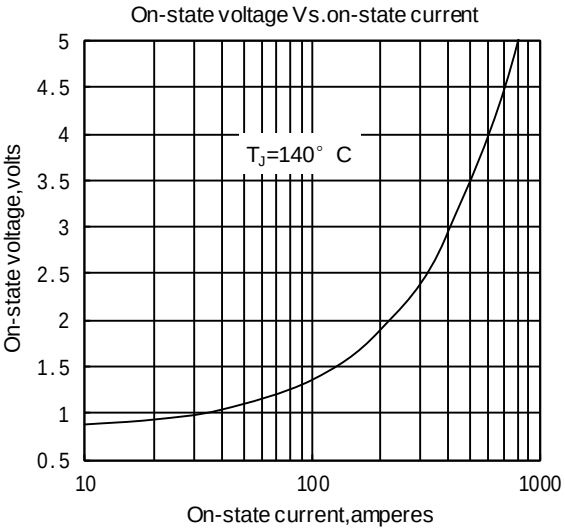


Fig.1

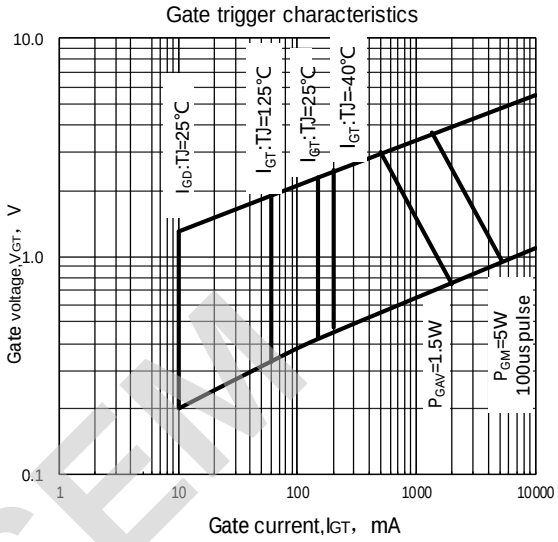


Fig.2

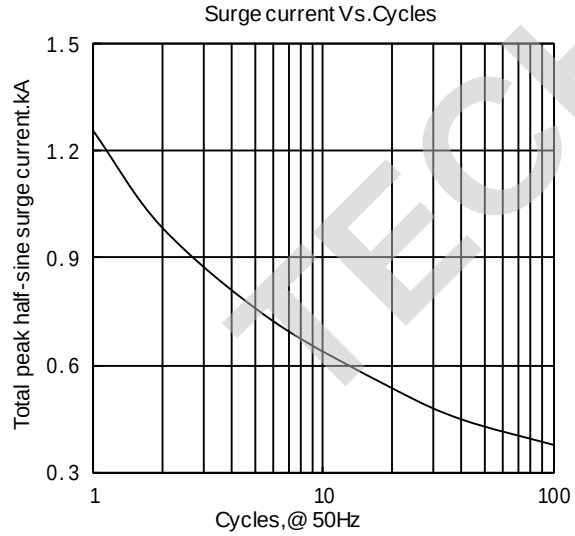


Fig.3

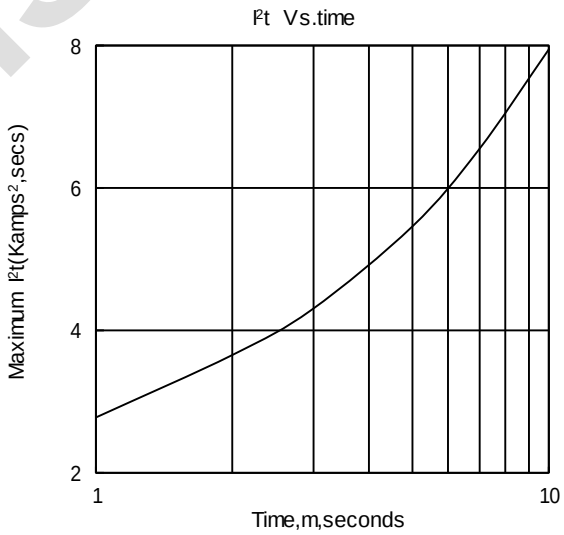


Fig.4

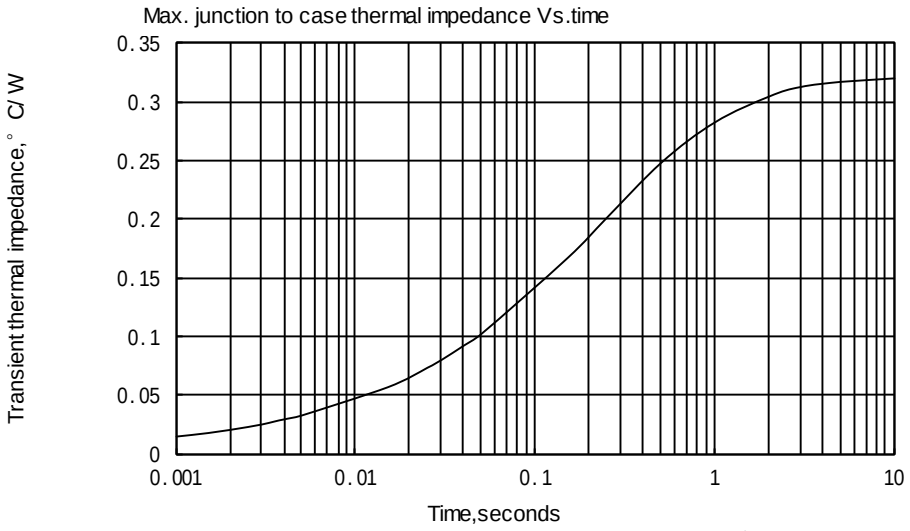
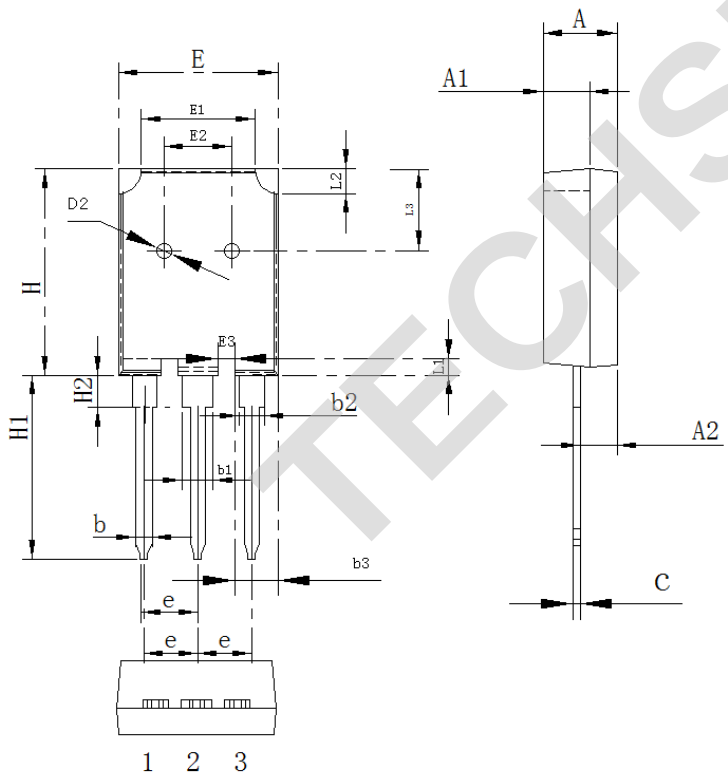


Fig.5

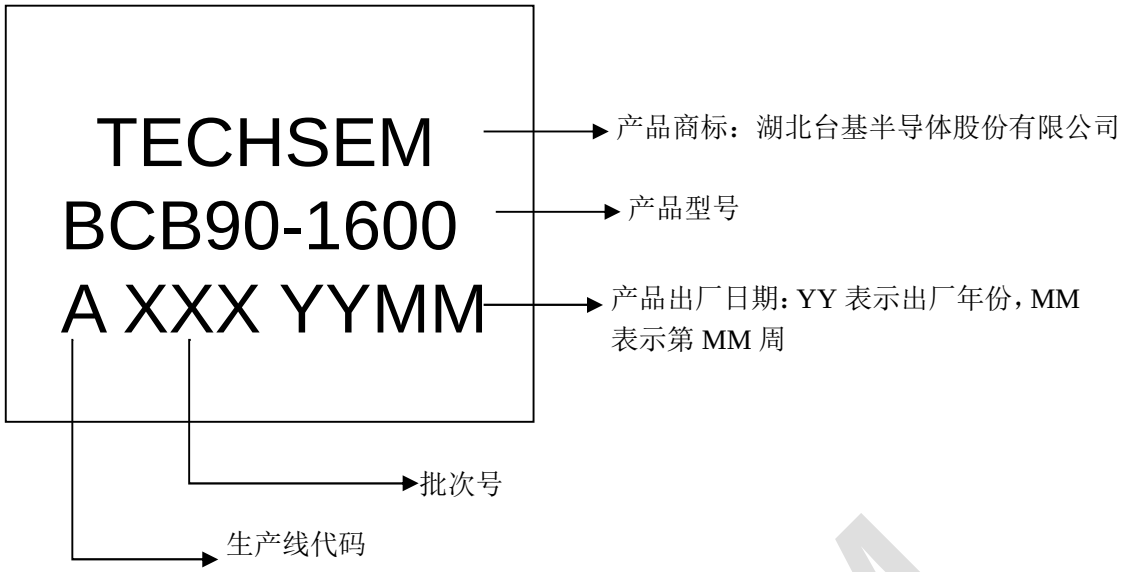
Outline:

TO-247P PACKAGE



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

Code Designation:



Product Nomenclature:

Type	$I_{T(RMS)}$	V_{DRM},V_{RRM}	I_{TSM}	T_{jmax}	Marking	Outline
BCB90-1600	**90A(T_C=115℃)**	**1600V**	**1400A**	**140℃**	**BCB90-1600**	**TO-247P**