

55A Standard SCRs

Product Summary

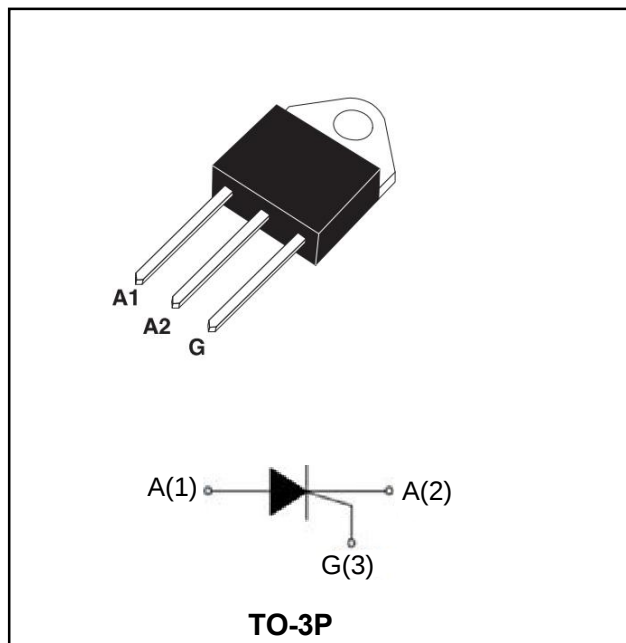
Symbol	Value	Unit
$I_{T(RMS)}$	55	A
$V_{DRM} V_{RRM}$	800/1200	V
V_{TM}	1.5	V

Features

With high ability to withstand the shock loading of large current, Provide high dv/dt rate with strong resistance to electromagnetic interference.

Application

Power charger, T-tools, massager, solid state relay, AC Motor speed regulation and so on.



Absolute maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Repetitive peak off-state voltage	V_{DRM}	800/1200	V
Repetitive peak reverse voltage	V_{RRM}	800/1200	V
RMS on-state current($T_c \leq 80^\circ\text{C}$)	$I_{T(RMS)}$	55	A
Non repetitive surge peak on-state current(full cycle , $t_p=20\text{ms}$, $T_j=25^\circ\text{C}$)	I_{TSM}	600	A
I^2t value for fusing ($t_p=10\text{ms}$)	I^2t	1800	A ² S
Critical rate of rise of on-state current ($T_j=125^\circ\text{C}$)	di_T/dt	40	A/ μs
Peak gate current	I_{GM}	8	A
Average gate power dissipation	$P_{G(AV)}$	1	W
Junction Temperature	T_J	-40~+125	°C
Storage Temperature	T_{STG}	-40 ~+150	°C

Electrical characteristics (T_J=25°C, unless otherwise noted)

Parameter	Symbol	Test Condition	Value			Unit
			min	typ	max	
Gate trigger current	I _{GT}	V _D =12V, R _L =100Ω	-	-	≤50	mA
Gate trigger voltage	V _{GT}		-	-	1.5	V
Non-triggering gate voltage	V _{GD}	T _J =125°C	0.2	-	-	V
Holding current	I _H	I _T =500mA	-	-	60	mA
Latching current	I _L	I _G =1.2I _{GT}	-	-	80	mA
Critical-rate of rise of commutation voltage	dV _D /dt	V _D =2/3 V _{DRM} T _J =125°C	500	-	-	V/μs

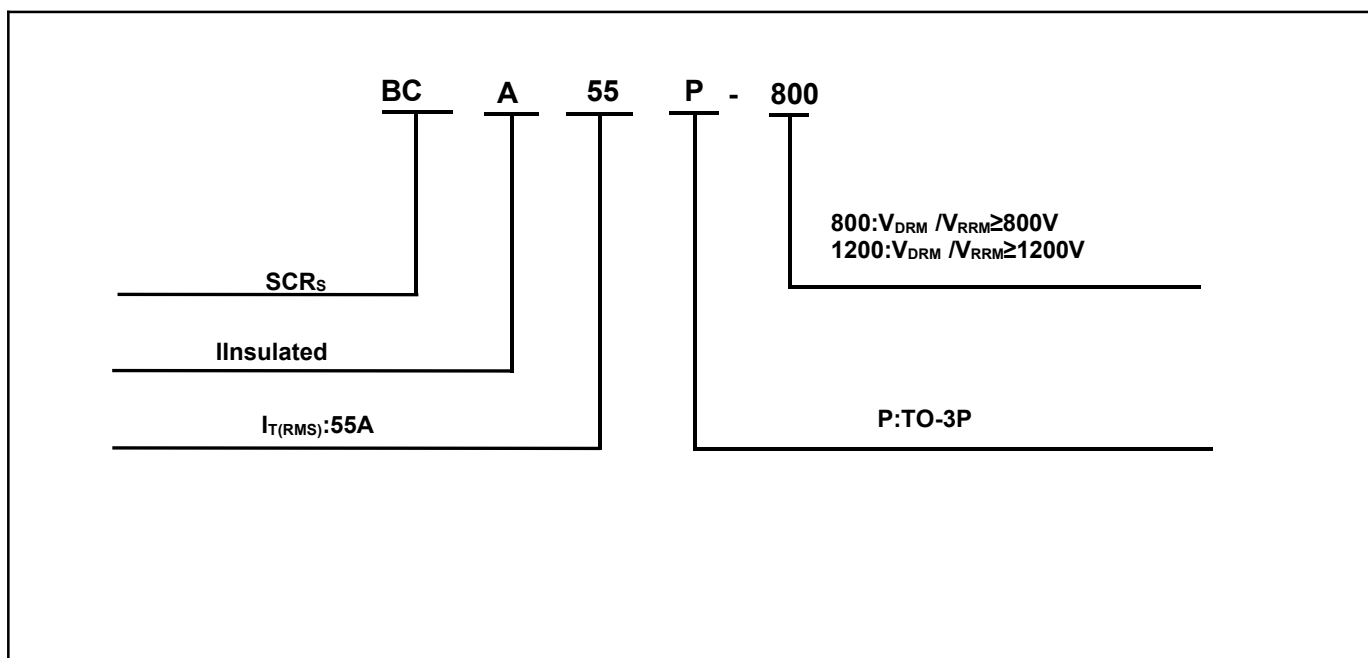
STATIC CHARACTERISTICS

On-state Voltage	V _{TM}	I _{TM} =110A	T _J =25°C	-	-	1.5	V
Repetitive Peak Off-State Current	I _{DRM}	V _D =V _{DRM} = V _{RRM}	T _J =25°C	-	-	10	μA
Repetitive Peak Reverse Current	I _{RRM}		T _J =125°C	-	-	2	mA

THERMAL RESISTANCES

lthermal resistance	R _{th (j-c)}	Junction to case		TYP.	0.9	°C/W
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Ordering Information



Typical Characteristics

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

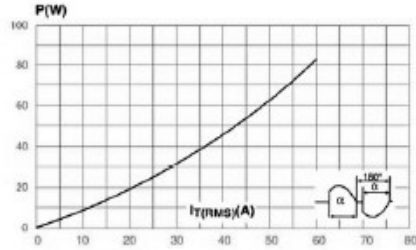


FIG.2: RMS on-state current versus case temperature (full cycle)

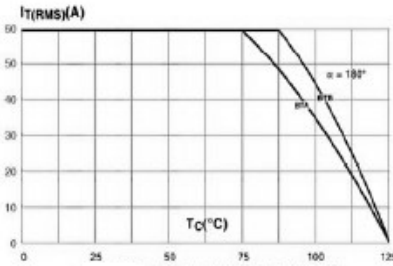


FIG.3: Transient thermal resistance curve

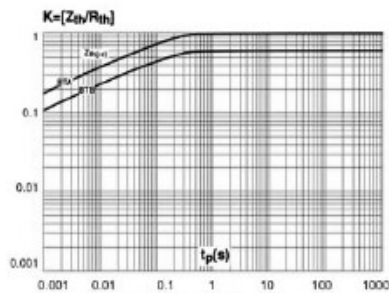


FIG.4: Normal-state voltammetry characteristic curve

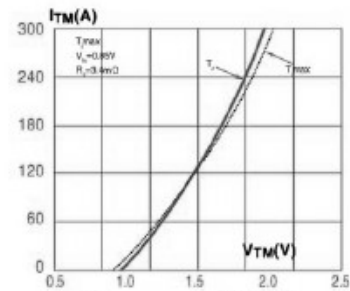


FIG.5: Surge peak on-state current versus number of cycles

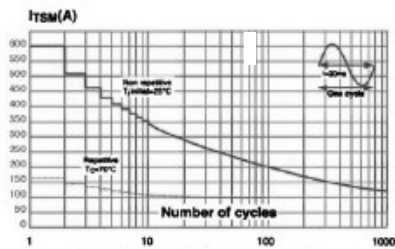


FIG.6: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$

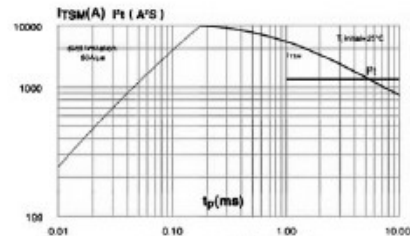
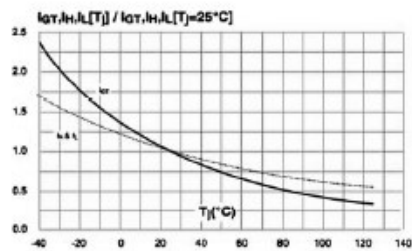
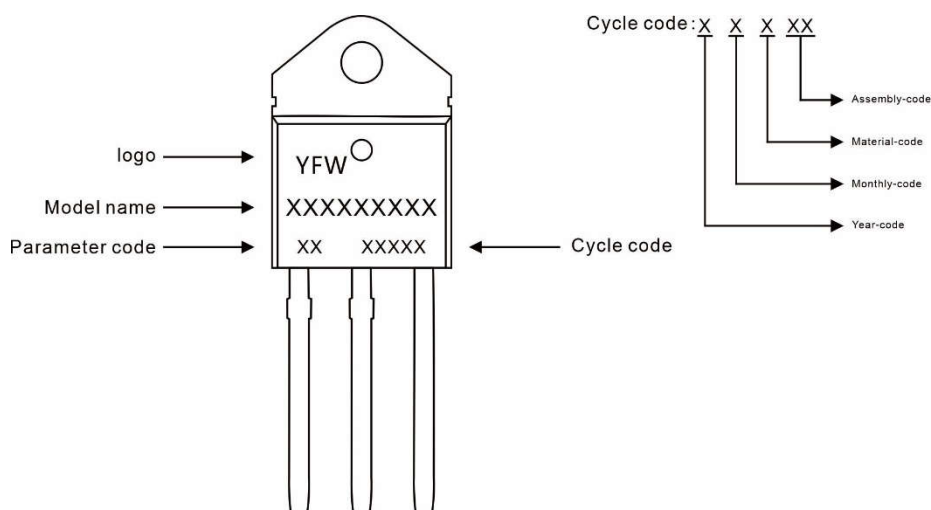


FIG.7: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)



Marking Diagram



Ordering information

Model name	Package	Base Quantity	Packing Quantity
BCA55P-XXXX	TO-3P	30pcs/tube	600PCS/Box 2400PCS/Carton

Package Dimensions

TO-3P(Insulated)

Symbol	Dimensions in mm		Dimensions in Inch	
	Min.	Max.	Min.	Max.
A	14.9	15.35	0.587	0.604
B	4.1	4.65	0.161	0.183
C	20.21	20.75	0.796	0.798
D	1.12	1.32	0.044	0.052
E	5.35	5.62	0.211	0.221
H	7.85	8.22	0.309	0.324
K	2.71	2.92	0.107	0.115
L	2.5	3.2	0.098	0.126
L1	15.02	15.55	0.591	0.612
T	4.38	4.65	0.172	0.183
T1	1.42	1.62	0.056	0.064
T2	0.52	0.68	0.021	0.027
ΦR	4.12	4.31	0.162	0.170

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