

60A Standard SCRs

Product Summary

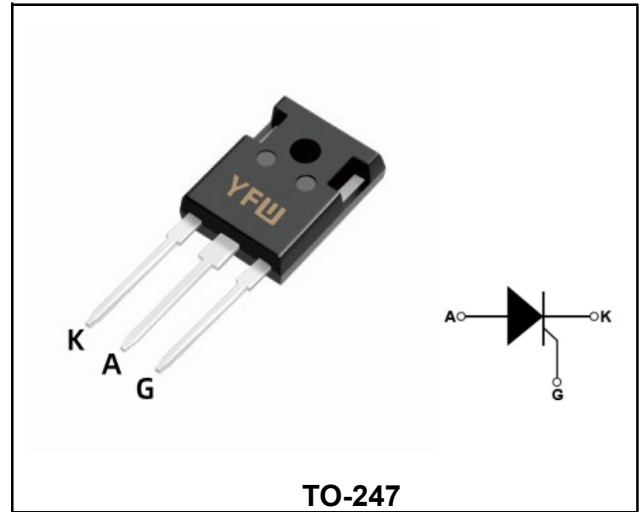
Symbol	Value	Unit
$I_{T(RMS)}$	60	A
$V_{DRM} V_{RRM}$	1600	V
$V_{TM}$	1.50	V

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	$V_{DRM}$	1600	V
Repetitive peak reverse voltage	$V_{RRM}$	1600	V
RMS on-state current	$I_{T(RMS)}$	60	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	$I_{TSM}$	600	A
$I^2t$ value for fusing (tp=10ms)	$I^2t$	1800	A <sup>2</sup> s
Critical rate of rise of on-state current ( $I_G = 2 \times I_{GT}$ )	$di/dt$	I - II - III   150	A/ $\mu$ s
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 (TA=25°C, unless otherwise noted)**

Parameter	Symbol	Test Condition		Value	Unit
Gate trigger current	$I_{GT}$	$V_D=12V, R_L=100\Omega$	I	60	mA
Gate trigger voltage	$V_{GT}$		I	1.5	V
Non-triggering gate voltage	$V_{GD}$	$V_D=V_{DRM}, T_j=125^\circ C$		0.2	V
Holding current	$I_H$	$I_T=0.5A$		80	mA
Latching current	$I_L$	$I_G=1.2I_{GT}$		100	mA
Critical-rate of rise of commutation voltage	$dV_D/dt$	$V_D=2/3V_{DRM}, T_j=125^\circ C$		1500	V/ $\mu s$

**STATIC CHARACTERISTICS**

On-state Voltage	$V_{TM}$	$I_{TM}=100A, T_j=25^\circ C$		1.50	V
Repetitive Peak Off-State Current	$I_{DRM}$	$V_D=V_{DRM}=V_{RRM}$	$T_j=25^\circ C$	20	$\mu A$
Repetitive Peak Reverse Current	$I_{RRM}$		$T_j=125^\circ C$	3	mA

**THERMAL RESISTANCES**

Thermal resistance	$R_{th(j-c)}$	Junction to case	TYP.	0.6	$^\circ C/W$
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**Typical Characteristics**

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

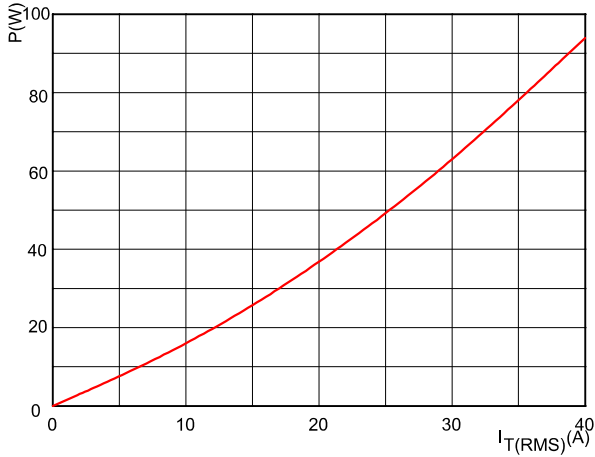


FIG.2: RMS on-state current versus case temperature (full cycle)

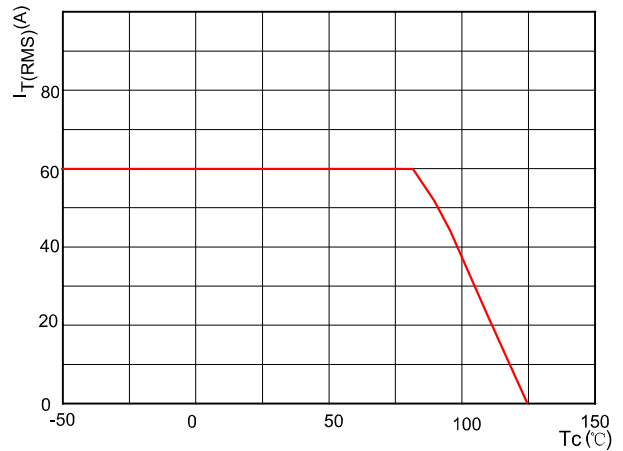


FIG.3: Surge peak on-state current versus number of cycles

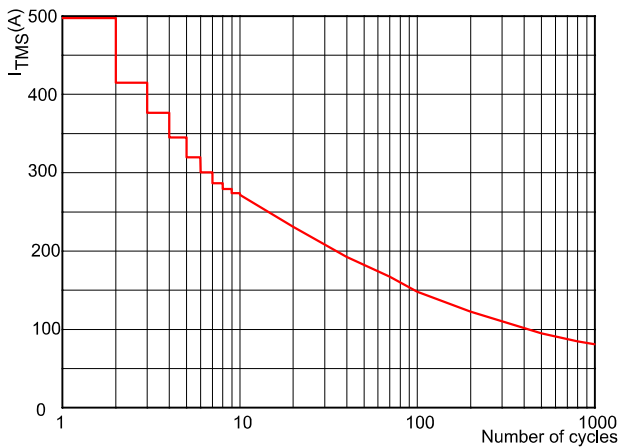


FIG.4: On-state characteristics (maximum values)

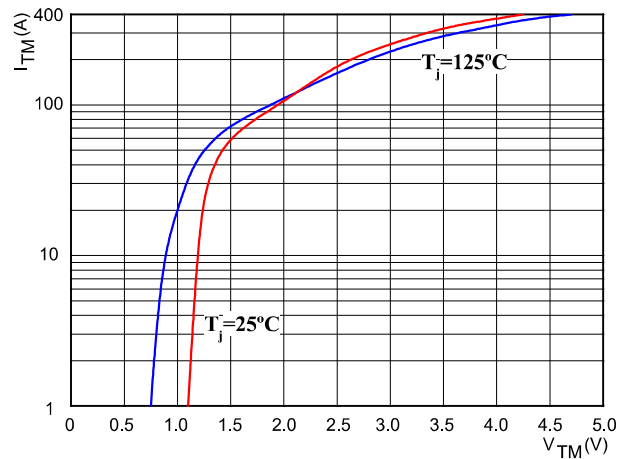


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 10\text{ms}$

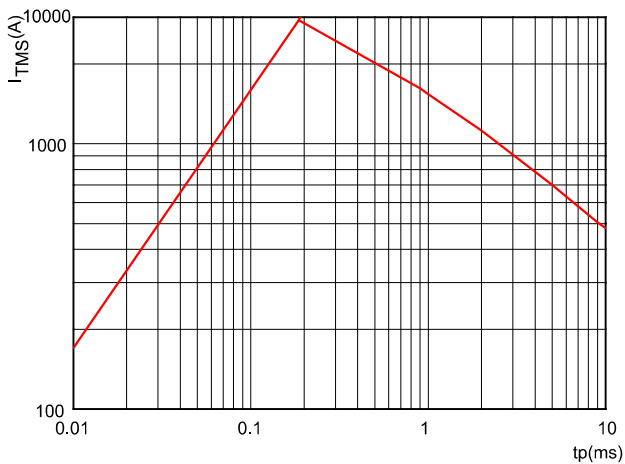
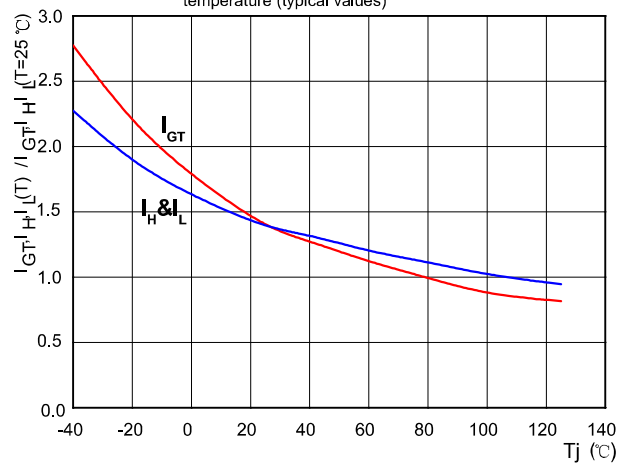
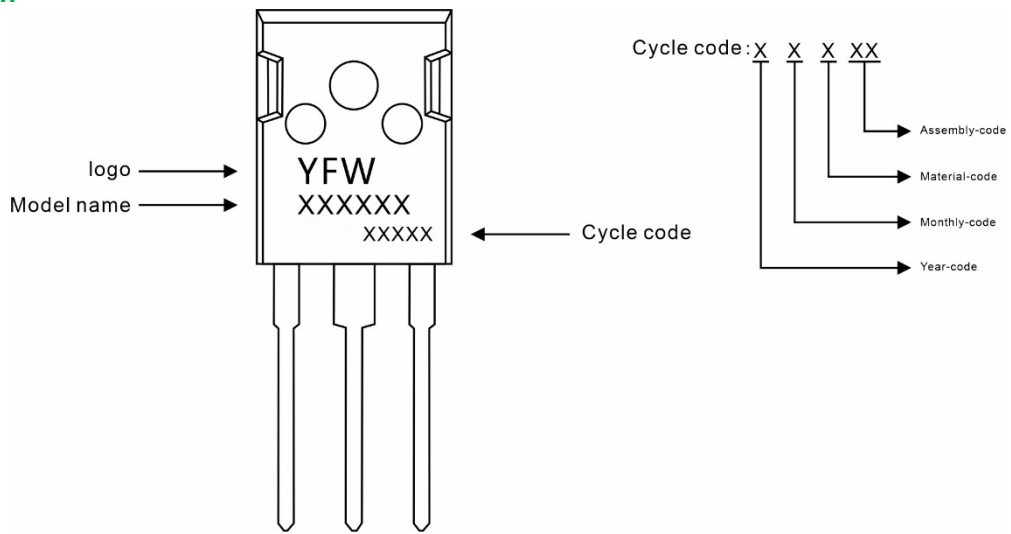


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)



**Marking Diagram**



**Ordering information**

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
<b>BCB60</b>	TO-247	0.209oz(5.93g)	30pcs/tube	600PCS/Box 2400PCS/Carton

**Package Dimensions**

**TO-247**

Symbol	Dimensions in mm		Dimensions in Inch	
	Min.	Max.	Min.	Max.
A	4.90	5.10	0.193	0.201
A1	1.90	2.10	0.075	0.083
A2	2.29	2.54	0.090	0.100
b	1.00	1.40	0.039	0.055
b1	2.00	2.20	0.079	0.087
b2	3.00	3.20	0.118	0.126
c	0.50	0.70	0.020	0.028
D	15.75	16.05	0.620	0.632
E	20.20	20.80	0.795	0.819
e	5.45 (BSC)		0.215 (BSC)	
e1	10.90 (BSC)		0.429 (BSC)	
F	6.05	6.25	0.238	0.246
F1	5.80	6.00	0.228	0.236
L	20.10	20.40	0.791	0.803
L1	4.05	4.35	0.159	0.171
Φ	3.50	3.70	0.138	0.146

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