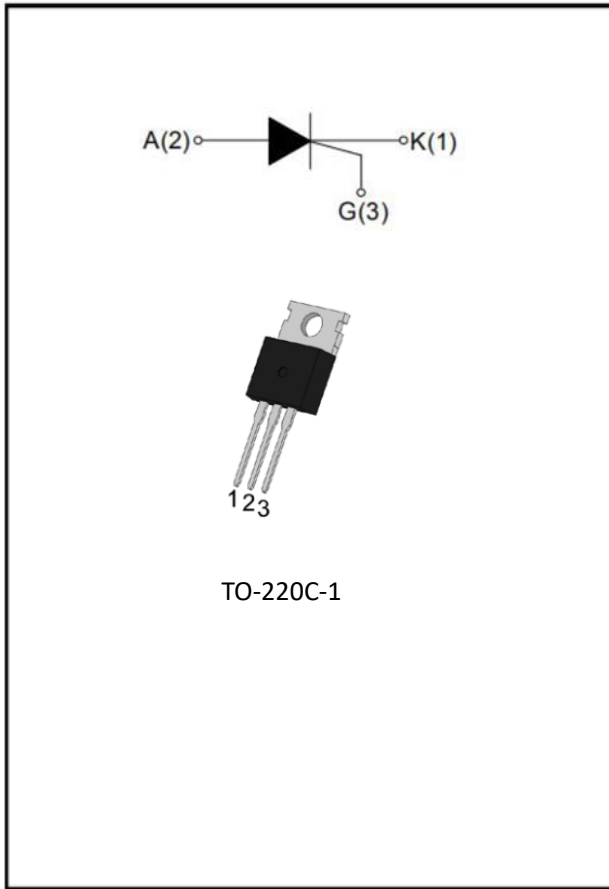


30A SCRs



Features

- On-state rms current, $I_{T(RMS)}$ 30A
- Repetitive peak off-state voltage, V_{DRM}/V_{RRM} 1200 V
- Triggering gate current, I_{GT} 40mA

Applications

- Ground Fault Circuit Interrupters (GFCI)
- General purpose switching and phase control
- Ignition circuits, CDI
- Motor control - e.g. small kitchen appliances

Mechanical Data

- Case Material: "Green" Molding Compound
- Package:

DEVICE	PACAKGE
YCMB3040-12C	TO-220C-1

Main Characteristics

SYMBOL	LIMITS	UNIT
$I_{T(RMS)}$	30	A
V_{DRM}/V_{RRM}	1200	V
I_{GT}	40	mA

Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Storage junction temperature range	T_{stg}	-40~150	°C
Operating junction temperature range	T_j	-40~125	°C
Repetitive surge peak Off-state voltage ($T_j=25^{\circ}C$)	V_{DRM}	1200	V
Repetitive peak reverse voltage ($T_j=25^{\circ}C$)	V_{RRM}	1200	V
RMS on-state current ($TC=80^{\circ}C$)	$I_{T(RMS)}$	30	A
Non-repetitive surge peak on-state current (half sine wave, $t_p=10ms$, $T_j=25^{\circ}C$)	I_{TSM}	370	A
I^2t value for fusing ($t_p=10ms$)	I^2t	685	A ² s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)	di/dt	200	A/ μs
Peak gate current	I_{GM}	10	A
Average gate power dissipation	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	20	W



YCMB3040-12C

■Electrical Characteristics (T_j=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MIN	TYP	MAX
Gate trigger current	I _{GT}	mA	V _D =12V, R _L =33Ω			40
Gate trigger voltage	V _{GT}	V	V _D =12V, R _L =33Ω			1
Non-triggering gate voltage	V _{GD}	V	V _D =V _{DRM} T _j =125°C R _L =3.3kΩ	0.25		
Holding current	I _H	mA	I _T =100mA			100
Latching current	I _L	mA	I _G =1.2 I _{GT}			120
Rate of rise of off-state voltage	dV/dt	V/μs	V _D =0.66×V _{DRM} T _j =150°C Gate open R _{GK} =1KΩ	1500		

■Static Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MAX
Peak on-state voltage	V _{TM}	V	I _{TM} =60A t _p =380μs	1.55
Peak off-state current	I _{DRM}	μA	V _{DRM} = V _{RRM} , T _j =25°C, R _{GK} =1KΩ	8
Peak reverse current	I _{RRM}	mA	V _{DRM} = V _{RRM} , T _j =125°C, R _{GK} =1KΩ	3

■Thermal Resistance

PARAMETER		SYMBOL	UNIT	Pacakge	Value
Thermal Resistance (Typical)	Junction to case	R _{θJ-C}	°C/W	TO-220C-1	0.9



■ Characteristics (Typical)

FIG.1: Maximum power dissipation versus RMS on-state current

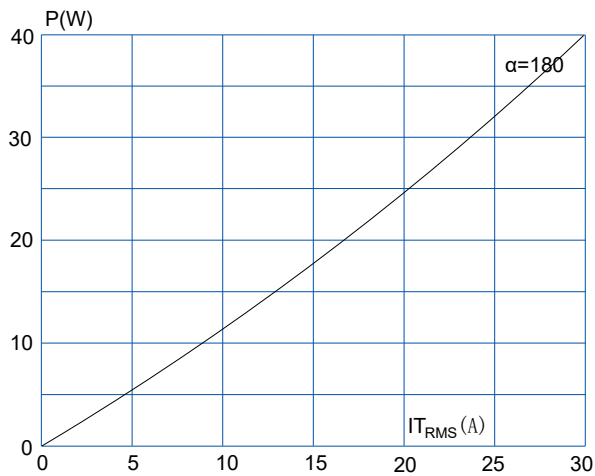


FIG.2: RMS on-state current versus case temperature

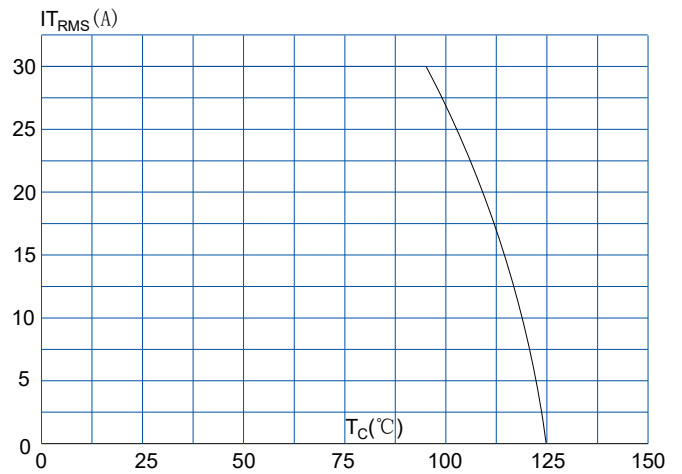


FIG.3: Surge peak on-state current versus number of cycles

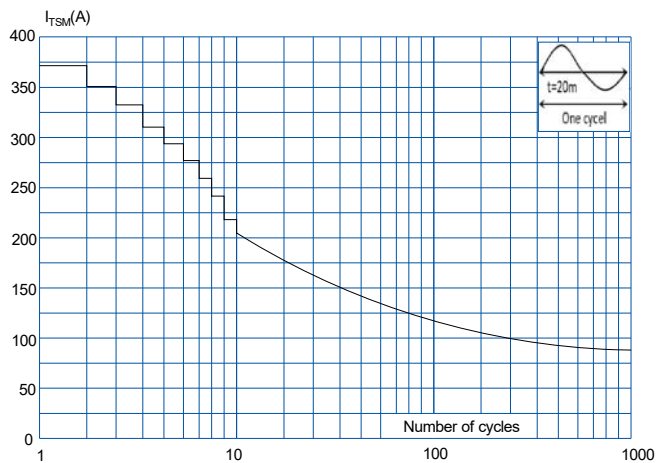


FIG.4: On-state characteristics (maximum values)

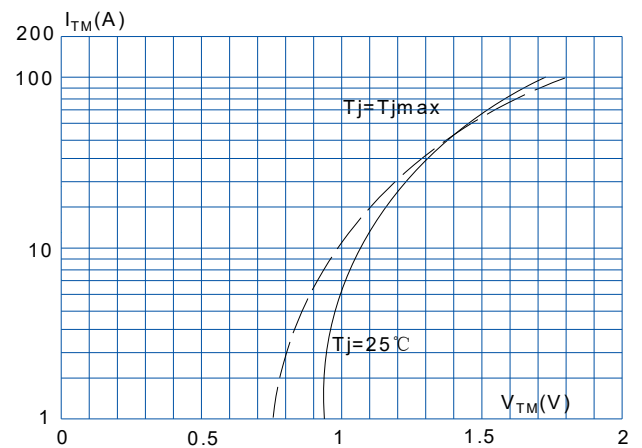


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20ms$, and corresponding value of $I_2 t$ ($di/dt < 50A/\mu s$)

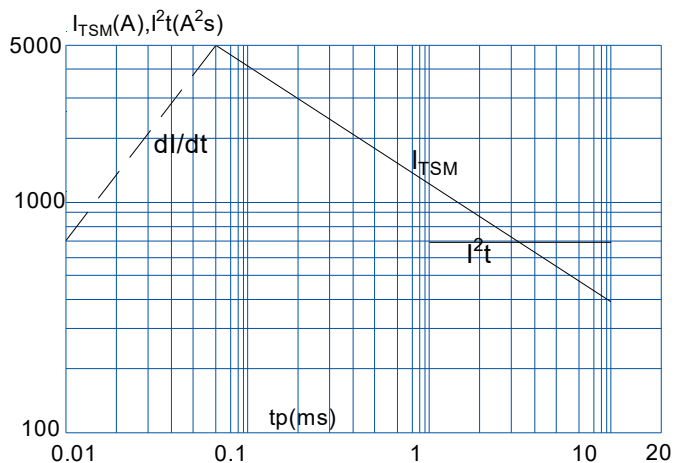
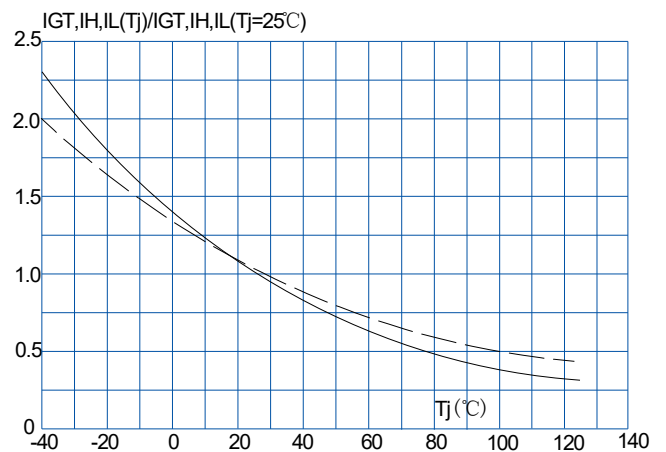


FIG.6: Relative variations of gate trigger current, holding current and latching

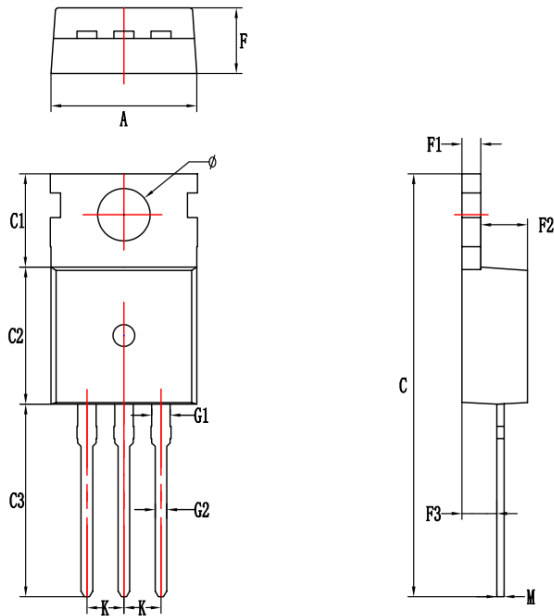




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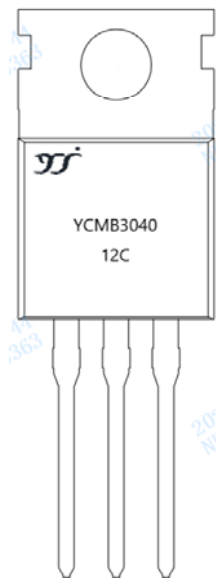
■ Outline Dimensions

➤ TO-220C-1 Package Outline Dimensions



Symbol	Min.(mm)	Typ.(mm)	Max.(mm)
A	9.90		10.10
C	28.70		29.10
C1	6.45		6.55
C2	9.30		9.50
C3	12.90		13.20
Ø	3.55		3.65
F	4.35		4.65
F1	1.25		1.35
F2	3.10		3.30
F3	2.30		2.60
G1	1.22		1.32
G2	0.75		0.85
K	2.54		
M	0.45		0.55

■ Marking Information



YCMB3040-12C
(TO-220C-1 Package)



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