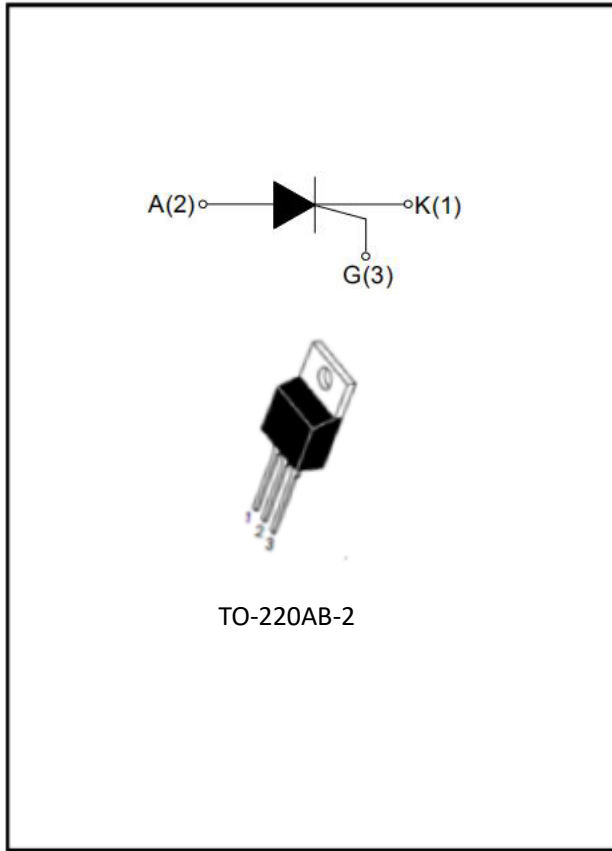


12A SCRs



Features

- On-state rms current, $I_{T(RMS)}$ 12 A
- Repetitive peak off-state voltage, V_{DRM}/V_{RRM} 800 V
- Triggering gate current, I_{GT} 6mA

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
YCMB1206-08A	TO-220AB-2

Main Characteristics

SYMBOL	LIMITS	UNIT
$I_{T(RMS)}$	12	A
V_{DRM}/V_{RRM}	800	V
I_{GT}	6	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}	800	V
Repetitive peak reverse voltage ($T_j=25^{\circ}C$)	V_{RRM}	800	V
RMS on-state current	$I_{T(RMS)}$	12	A
Non-repetitive surge peak on-state current (half sine wave, $T_j= 25^{\circ}C$; $t_p= 10$ ms)	I_{TSM}	120	A
I^2t value for fusing ($t_p=10ms$)	I^2t	72	A ² s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)	di/dt	50	A/ μ s
Peak gate current	I_{GM}	2	A
Average gate power dissipation	$P_{G(AV)}$	0.5	W
Peak gate power	P_{GM}	5	W



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■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			6
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 =110°C	0.2		
Holding current	I _H	mA	I _T =100mA			30
Latching current	I _L	mA	I _G =3 I _{GT}			40
Rate of rise of off-state voltage	dV/dt	V/μs	V _D =0.66×V _{DRM} T _j =125°C Gate open	500		

■Static Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MAX
Peak on-state voltage	V _{TM}	V	I _{TM} =23A t _p =380μs	1.6
Peak off-state current	I _{DRM} I _{RRM}	μA	V _{DRM} = V _{RRM} , T _j =25°C	10
Peak reverse current		mA	V _{DRM} = V _{RRM} , T _j =125°C	1

■Thermal Resistance

PARAMETER		SYMBOL	UNIT	Pacakge	Value
Thermal Resistance (Typical)	Junction to case	R _{θJ-C}	°C/W	TO-220AB-2	1.3



■ Characteristics (Typical)

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

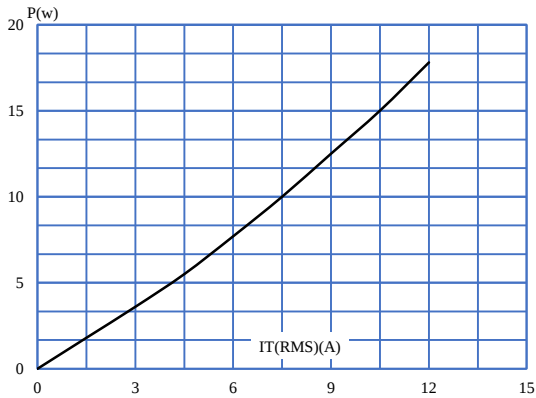


FIG.2: RMS on-state current versus case temperature

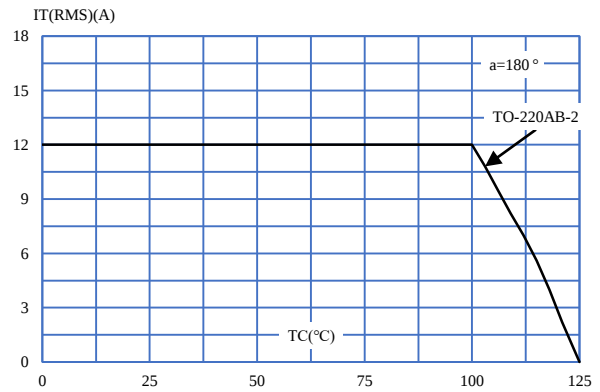


FIG.3: Surge peak on-state current versus number of cycles

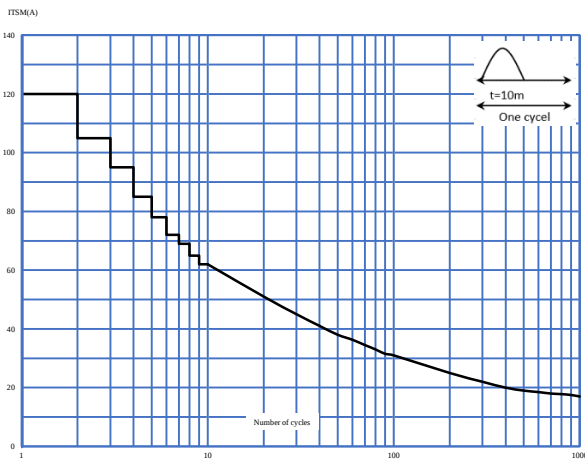


FIG.4: On-state characteristics (maximum values)

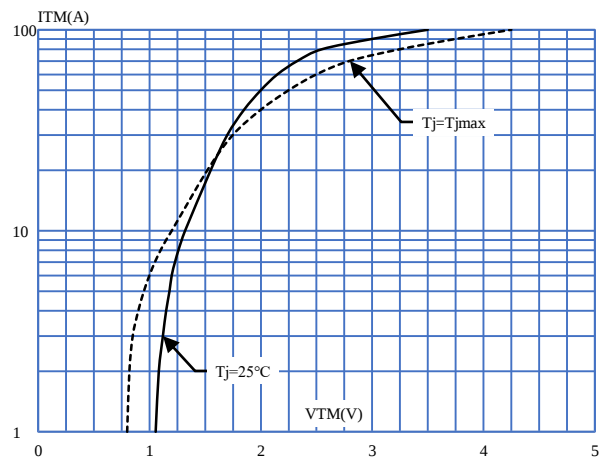


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t ($I - II - III: dI/dt < 50\text{A}/\mu\text{s}$;

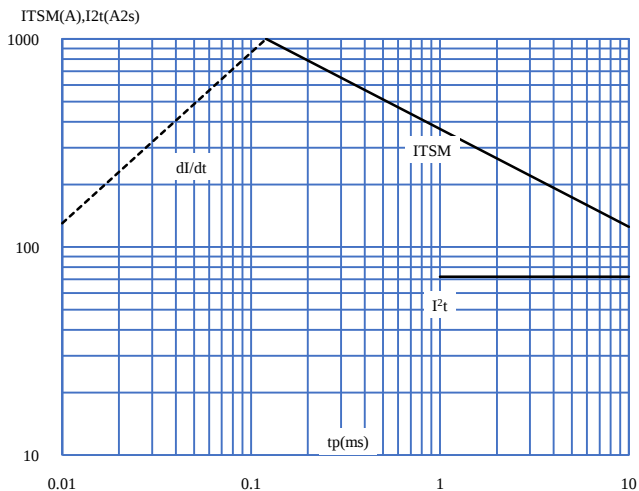
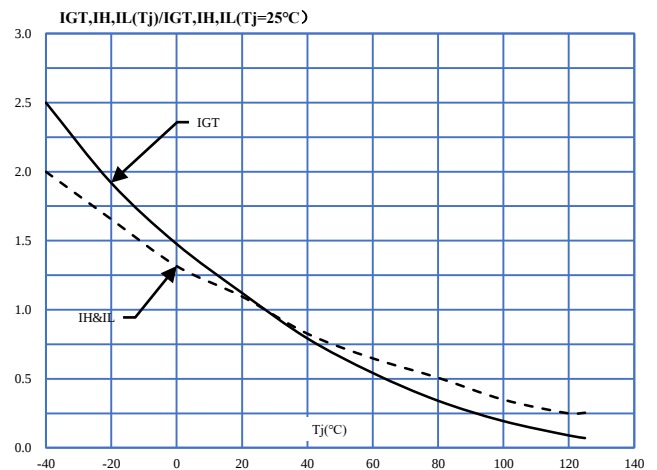


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

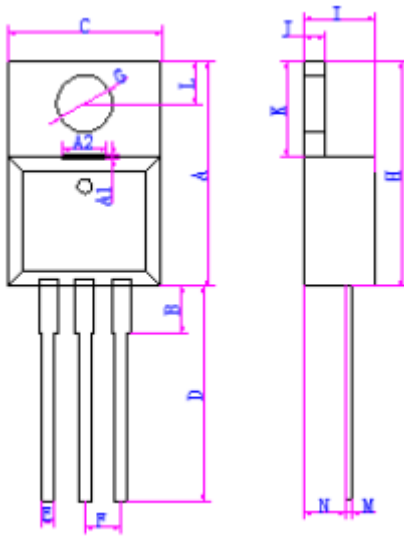




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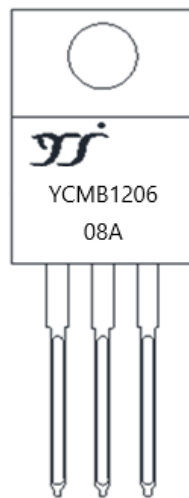
■ Outline Dimensions

➤ TO-220AB-2 Package Outline Dimensions



Symbol	Min.(mm)	Typ.(mm)	Max.(mm)
A	15		15.4
A1(K)	0.7		0.9
A2(K)	2.9		3.1
B	3.6		4.2
C	9.9		10.3
D	13.2		13.8
E	0.61		1.01
F	2.44		2.64
G	3.62		4.02
H	15		15.4
I	4.4		4.8
J	1.18		1.38
K	5.9		6.5
L	2.45		3.05
M	0.2		0.6
N	2.4		3

■ Marking Information



YCMB1206-08A
(TO-220AB-2 Package)



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