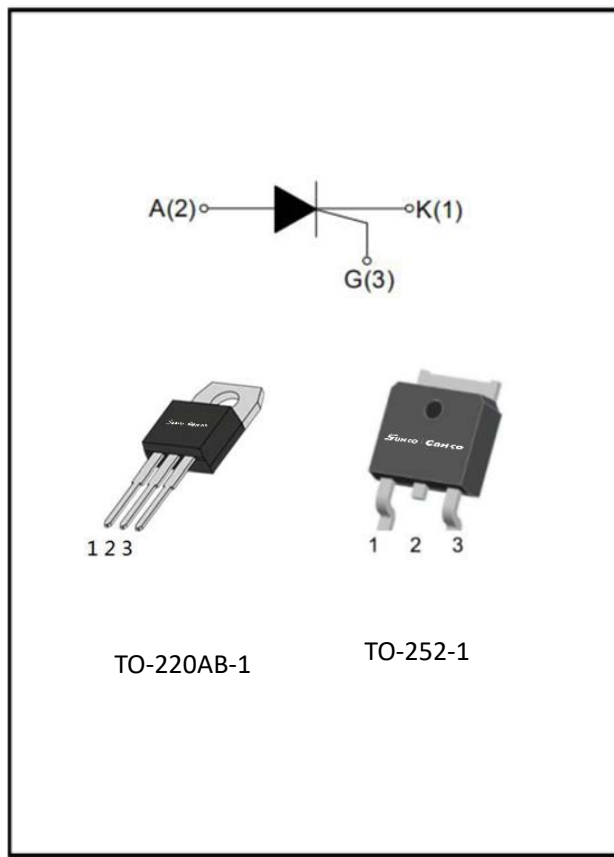


12A SCRs



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} 15mA

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
YCMB1215-08A	TO-220AB-1
YCMB1215-08D	TO-252-1

Main Characteristics

SYMBOL	LIMITS	UNIT
$I_{T(RMS)}$	12	A
V_{DRM}/V_{RRM}	800	V
I_{GT}	15	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 ($TC=80^{\circ}C$)	$I_{T(RMS)}$	12	A
Non-repetitive surge peak on-state current (full cycle, $F=50Hz$)	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/ μs
Peak gate current	I_{GM}	0.2	A
Average gate power dissipation	$P_{G(AV)}$	0.5	W
Peak gate power	P_{GM}	5	W

■Electrical Characteristics (T_a=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		4	15
Gate trigger voltage	V _{GT}	V	V _D =12V, R _L =33Ω		0.75	1.5
Non-triggering gate voltage	V _{GD}	V	V _D =V _{DRM} T _j =110°C	0.2		
Holding current	I _H	mA	I _T =50mA			30
Latching current	I _L	mA	I _G =1.2 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	200		

■Thermal Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MAX
Peak on-state voltage	V _{TM}	V	I _{TM} =23A t _p =380μs	1.75
Peak off-state current	I _{DRM}	μA	V _{DRM} = V _{RRM} , T _j =25°C	5
Peak reverse current	I _{RRM}	mA	V _{DRM} = V _{RRM} , T _j =110°C	0.5

■Thermal Resistance (T_a=25°C Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	Pacakge	Value
Thermal Resistance (Typical)	Junction to case	R _{θJ-C}	°C/W	TO-220AB-1	1.3
			°C/W	TO-252-1	1.4

■ Characteristics (Typical)

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

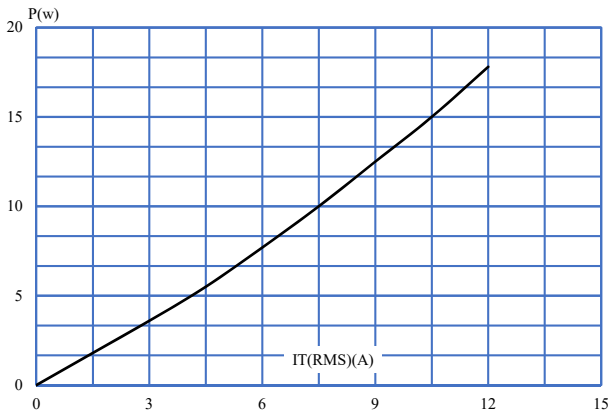


FIG.2: RMS on-state current versus case temperature

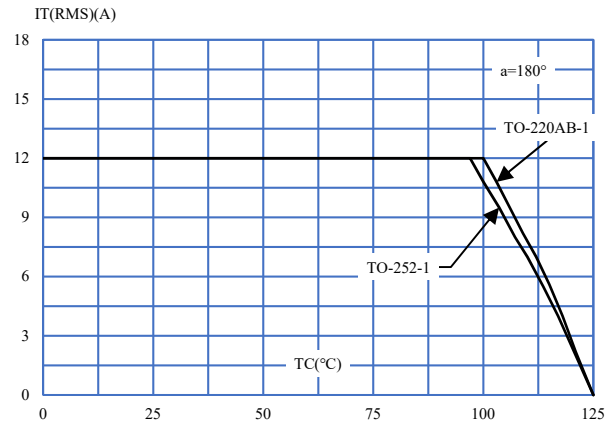


FIG.3: Surge peak on-state current versus number of cycles

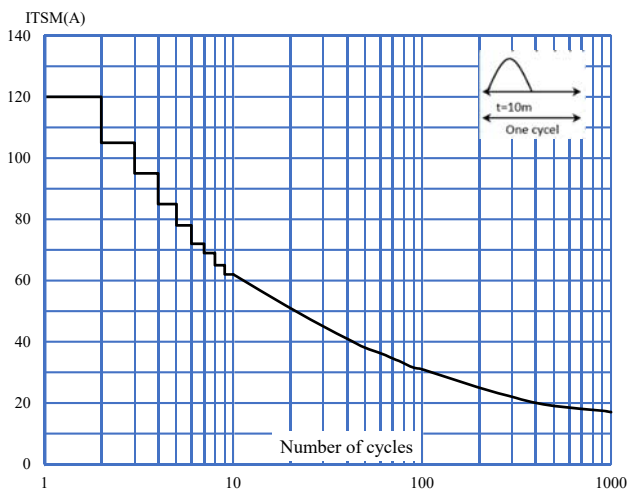


FIG.4: On-state characteristics (maximum values)

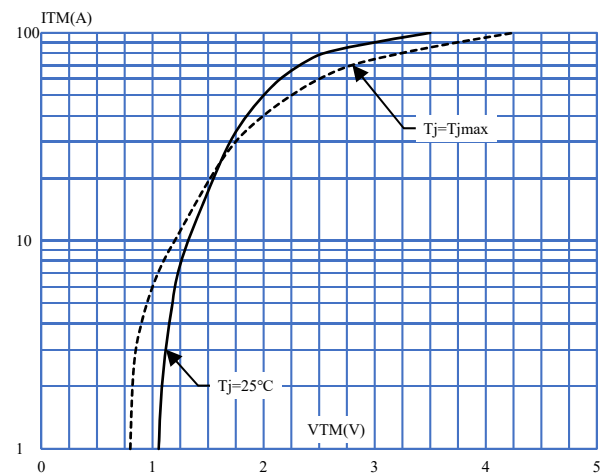


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t ($I - II - III: dI/dt < 50\text{A}/\mu\text{s}$; $IV: dI/dt < 10\text{A}/\mu\text{s}$)

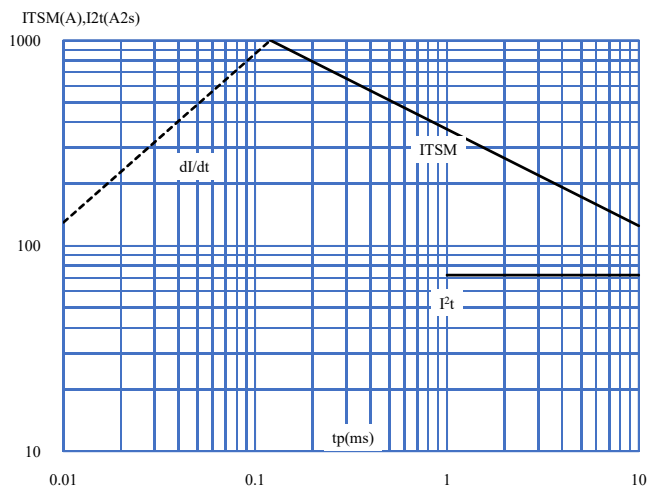
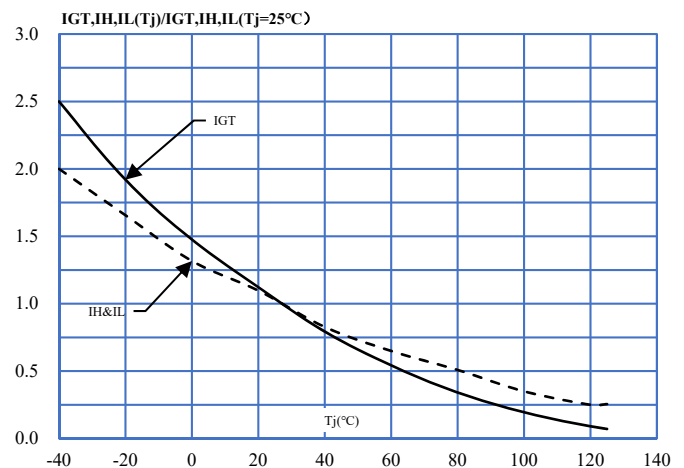
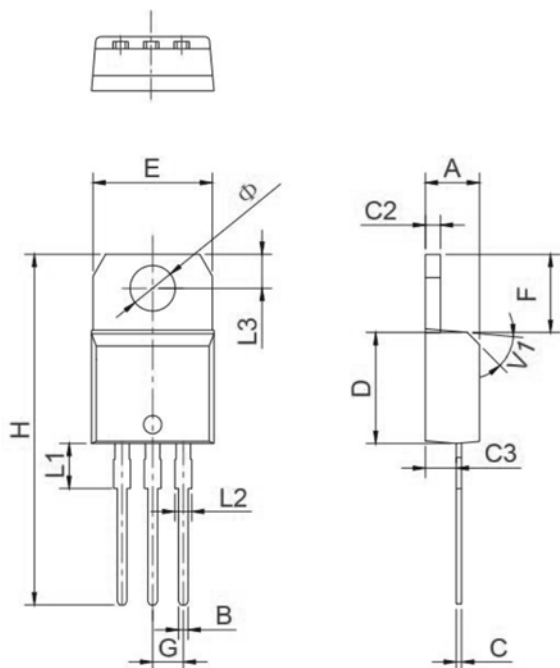


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



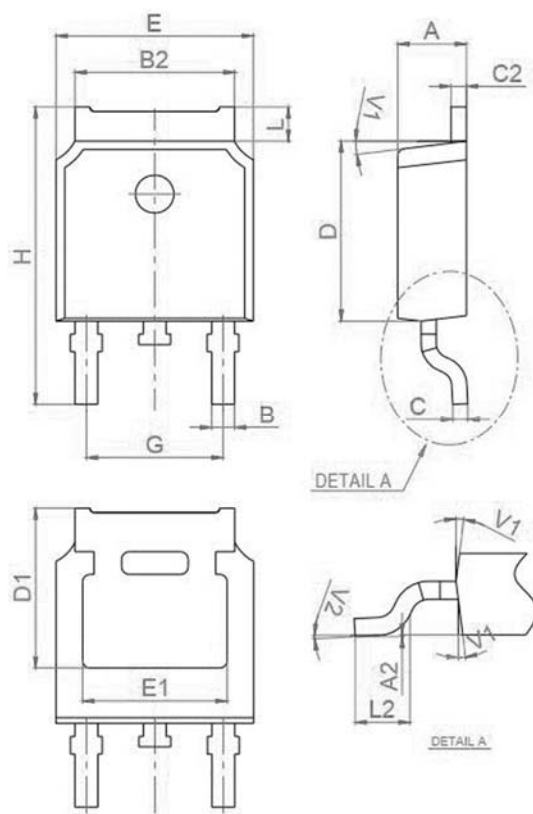
■ Outline Dimensions

➤ TO-220AB-1 Package Outline Dimensions



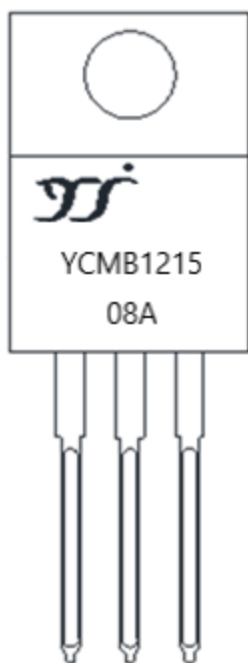
Symbol	Min.(mm)	Typ.(mm)	Max.(mm)
A	4.40	4.47	4.60
B	0.61		0.88
C	0.46	0.50	0.70
C2	1.21	1.27	1.32
C3	2.40		2.72
D	8.60		9.70
E	9.80		10.40
F	6.56		6.95
G		2.54	
H	28.00		29.80
L1		3.75	
L2	1.14		1.70
L3	2.65		2.95
V1		45°	
Φ	3.70	3.75	3.80

➤ TO-252-1 Package Outline Dimensions

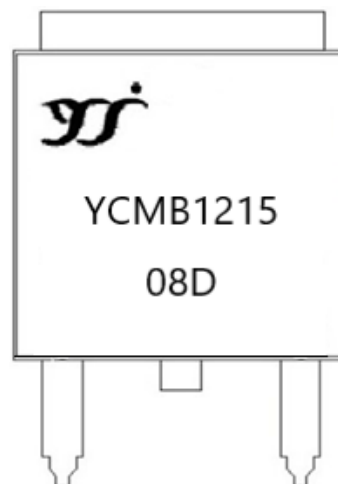


Symbol	Min.(mm)	Typ.(mm)	Max.(mm)
A	2.20		2.40
A2	0		0.10
B	0.66		0.86
B2	5.10		5.46
C	0.46		0.58
C2	0.44		0.58
D	5.90		6.30
D1		5.30	
E	6.40		6.80
E1	4.63		
G	4.372		4.772
H	9.80		10.40
L	1.09		1.21
L2	1.35		1.65
V1		7°	
V2	0°		6°

■ **Marking Information**



YCMB1215-08A
(TO-220AB-1 Package)



YCMB1215-08D
(TO-252-1 Package)

Disclaimer

The information presented in this document is for reference only. Shanghai Sunco Electronics Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Russiansunco or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.russiansunco.com](http://www.russiansunco.com) , or consult your nearest Russiansunco's sales office for further assistance.