

## 16A SCRs

### Features

- On-state rms current,  $I_{T(RMS)}$  16 A
- Repetitive peak off-state voltage,  $V_{DRM}/V_{RRM}$  800 V
- Triggering gate current,  $I_{GT(Q1)}$  35 mA

### Applications

- General purpose switching and phase control
- General purpose switching

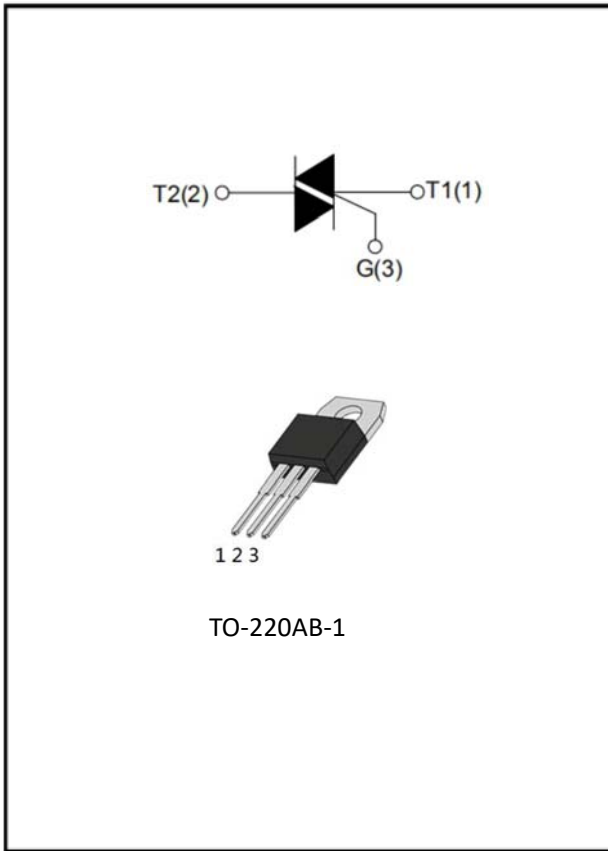
### Mechanical Data

- Case Material: "Green" Molding Compound
- Package: TO-220AB-1

DEVICE	PACAKGE
ACYMA1635-08A	TO-220AB-1

### Main Characteristics

SYMBOL	LIMITS	UNIT
$I_{T(RMS)}$	16	A
$V_{DRM}/V_{RRM}$	800	V
$I_{GT}$	35	mA



### Maximum Ratings

PARAMETER	SYMBOL		LIMITS	UNIT
Storage junction temperature range	Tstg		-40~150	°C
Operating junction temperature range	Tj		-40~125	°C
Repetitive surge peak Off-state voltage (Tj=25°C)	V <sub>DRM</sub>		800	V
Repetitive peak reverse voltage (Tj=25°C)	V <sub>RRM</sub>		800	V
RMS on-state current (TC=80°C)	I <sub>T(RMS)</sub>		16	A
Non-repetitive surge peak on-state current (full cycle, F=50Hz)	I <sub>TSM</sub>		160	A
I <sup>2</sup> t value for fusing (tp=10ms)	I <sup>2</sup> t		128	A <sup>2</sup> s
Critical rate of rise of on-state current (IG=2×IGT)	di/dt	I - II - III	50	A/μs
Peak gate current	I <sub>GM</sub>		4	A
Average gate power dissipation	P <sub>G(AV)</sub>		1	W
Peak gate power	P <sub>GM</sub>		5	W



# ACYMA1635-08A

## ■Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	QUADRANT	MIN	TYP	MAX
Gate trigger current	I <sub>GT</sub>	mA	V <sub>D</sub> =12V, R <sub>L</sub> =33Ω	I - II - III			35
Gate trigger voltage	V <sub>GT</sub>	V	V <sub>D</sub> =12V, R <sub>L</sub> =33Ω	I - II - III			1.3
Non-triggering gate voltage	V <sub>GD</sub>	V	V <sub>D</sub> =V <sub>DRM</sub>	I - II - III	0.2		
Holding current	I <sub>H</sub>	mA	I <sub>T</sub> =100mA	I - II - III			40
Latching current	I <sub>L</sub>	mA	I <sub>G</sub> =1.2 I <sub>GT</sub>	I - III			50
				II			60
Rate of rise of off-state voltage	dV/dt	V/μs	V <sub>D</sub> =0.66×V <sub>DRM</sub> T <sub>j</sub> =125°C Gate open	I - II - III			500

## ■Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MAX
Peak on-state voltage	V <sub>TM</sub>	V	I <sub>TM</sub> =22.5A t <sub>p</sub> =380μs	1.5
Peak off-state current Peak reverse current	I <sub>DRM</sub> I <sub>RRM</sub>	μA	V <sub>DRM</sub> =V <sub>RRM</sub> , T <sub>j</sub> =25°C	5
		mA	V <sub>DRM</sub> =V <sub>RRM</sub> , T <sub>j</sub> =125°C	1

## ■Thermal Resistance (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	Pacakge	Value
Thermal Resistance (Typical)	Junction to case	R <sub>θJ-C</sub>	°C/W	TO-220AB-1	2.1



■ Characteristics (Typical)

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

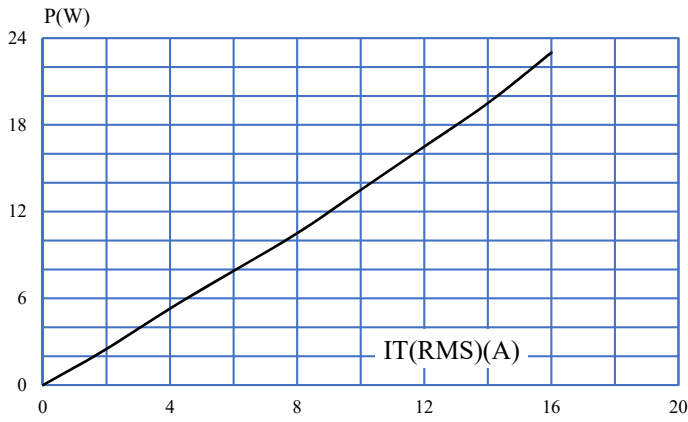


FIG.2: RMS on-state current versus case temperature

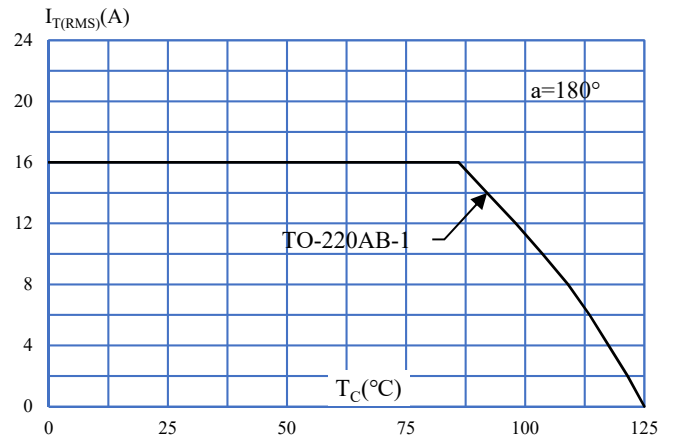


FIG.3: Surge peak on-state current versus number of cycles

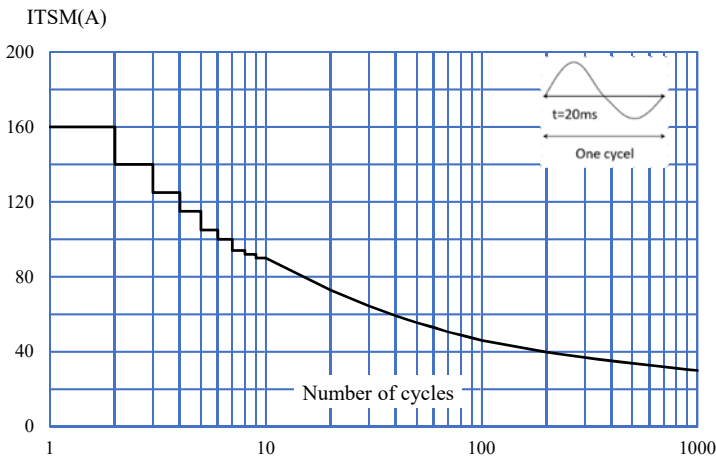


FIG.4: On-state characteristics (maximum values)

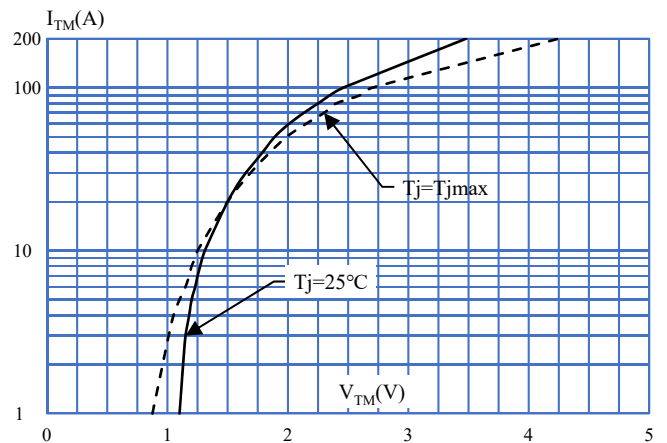


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms, and corresponding value of I2 t (dI/dt < 50A/μs)

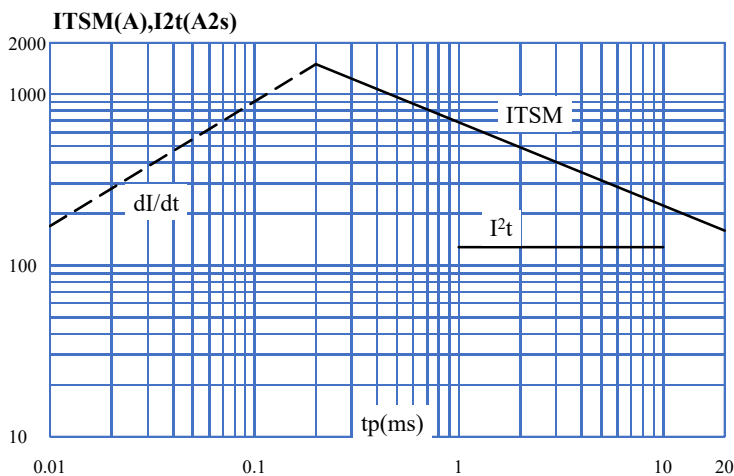
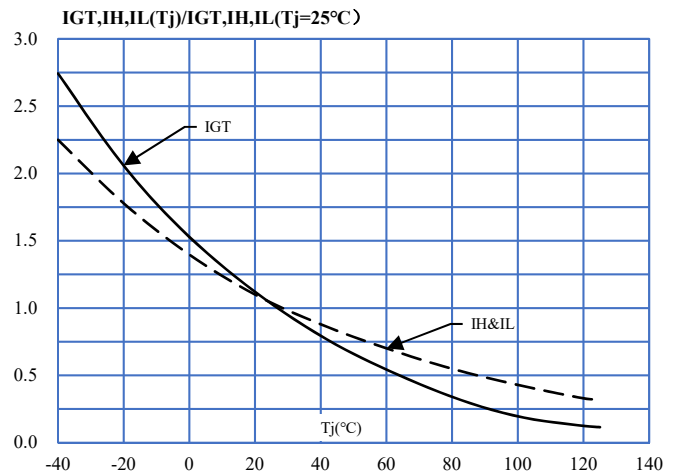


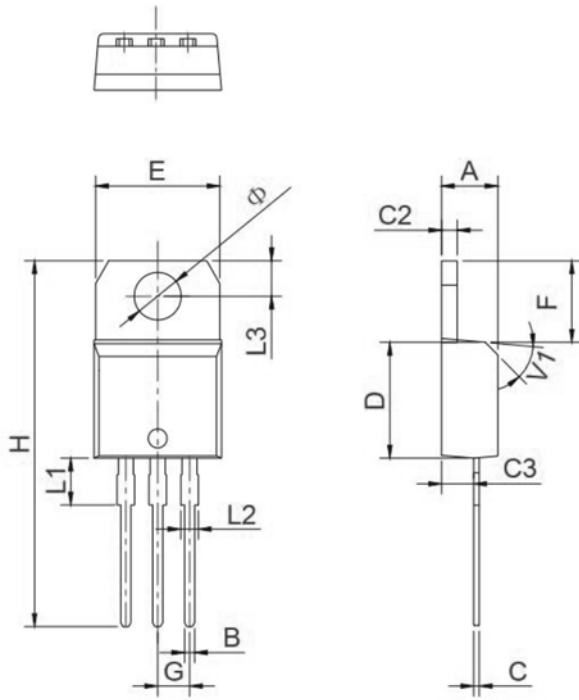
FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature





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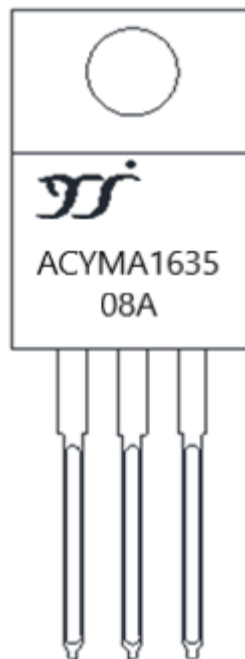
## ■ Outline Dimensions



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-220AB-1

## ■ Marking information



(TO-220AB-1 Package)



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