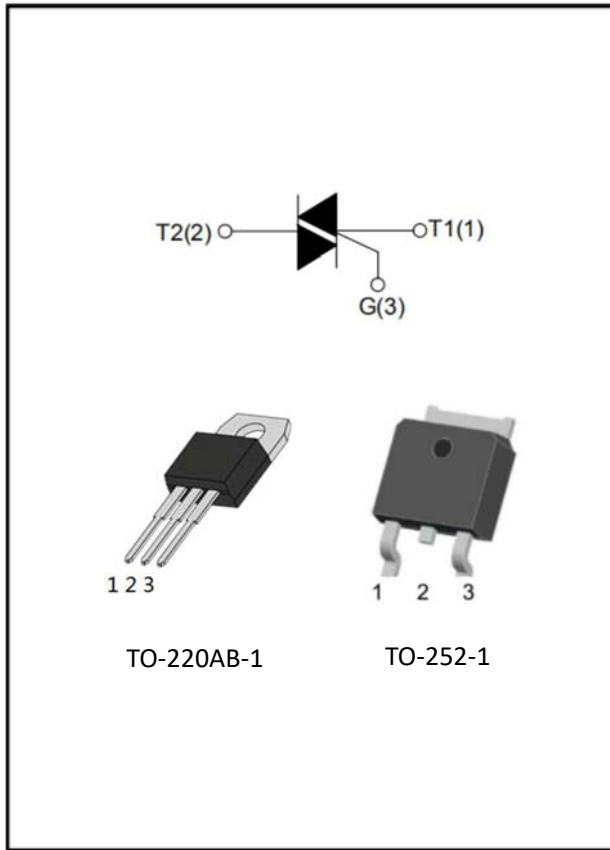


## 4A 4Q Triac



### Features

- On-state rms current,  $I_{T(RMS)}$  4 A
- Repetitive peak off-state voltage,  $V_{DRM}/V_{RRM}$  600 V
- Triggering gate current,  $I_{GT(Q1)}$  10 mA

### Applications

- General purpose switching and phase control
- General purpose switching

### Mechanical Data

- Case Material: "Green" Molding Compound
- Package: TO-220AB-1; TO-252-1

DEVICE	PACAKGE
ACYMB0425-06A	TO-220AB-1
ACYMB0425-06D	TO-252-1

### Main Characteristics

SYMBOL	LIMITS	UNIT
$I_{T(RMS)}$	4	A
$V_{DRM}/V_{RRM}$	600	V
$I_{GT}$	10	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 ( $T_j=25^\circ\text{C}$ )	$V_{DRM}$	600	V
Repetitive peak reverse voltage ( $T_j=25^\circ\text{C}$ )	$V_{RRM}$	600	V
RMS on-state current	$I_{T(RMS)}$	4	A
Non-repetitive surge peak on-state current (full cycle, $F=50\text{Hz}$ )	$I_{TSM}$	25	A
$I^2t$ value for fusing ( $t_p=10\text{ms}$ )	$I^2t$	6.1	$\text{A}^2\text{s}$
Critical rate of rise of on-state current ( $I_G=2 \times I_{GT}$ )	di/dt	50	A/ $\mu\text{s}$
		10	
Peak gate current	$I_{GM}$	2	A
Average gate power dissipation	$P_{G(AV)}$	0.5	W
Peak gate power	$P_{GM}$	5	W



## ACYMB0425 Series

### ■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			10
				IV			25
Gate trigger voltage	V <sub>GT</sub>	V	V <sub>D</sub> =12V, R <sub>L</sub> =33Ω	I - II - III - IV			1.3
Non-triggering gate voltage	V <sub>GD</sub>	V	V <sub>D</sub> =V <sub>DRM</sub>	I - II - III - IV	0.2		
Holding current	I <sub>H</sub>	mA	I <sub>T</sub> =100mA	I - II - III - IV			
Latching current	I <sub>L</sub>	mA	I <sub>G</sub> =1.2 I <sub>GT</sub>	I - III - IV			20
				II			35
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 - IV	50		

### ■Static 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> =5.5A t <sub>p</sub> =380μs	1.6
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	0.5

### ■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	2.6
			°C/W	TO-252-1	2.8



## ■ Characteristics (Typical)

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

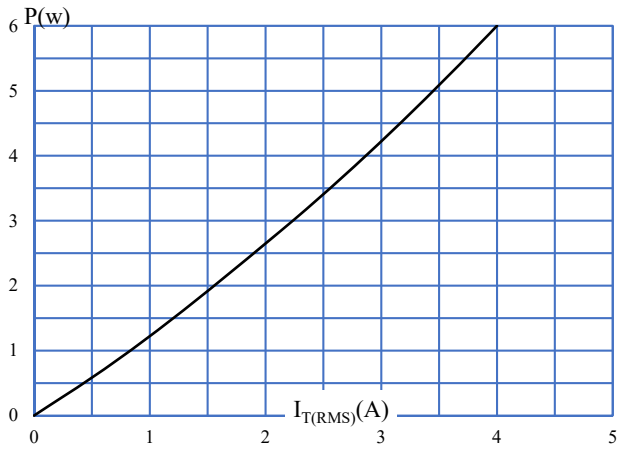


FIG.2: RMS on-state current versus case temperature

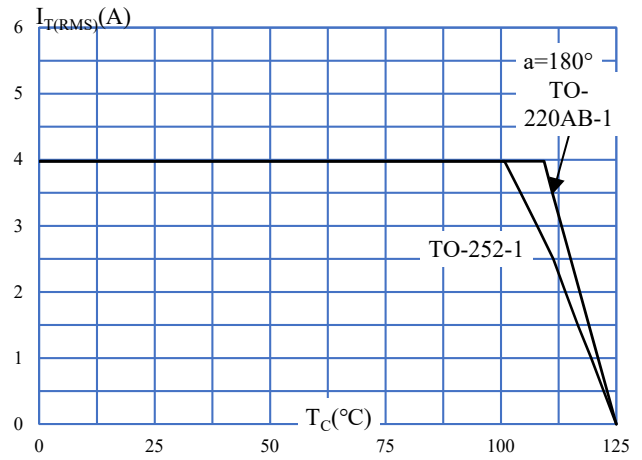


FIG.3: Surge peak on-state current versus number of cycles

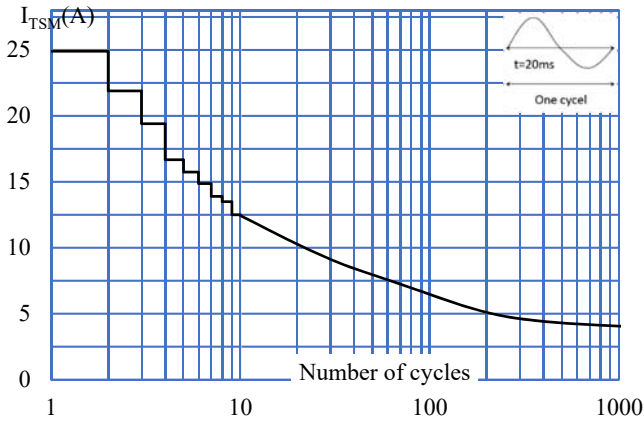


FIG.4: On-state characteristics(maximum values)

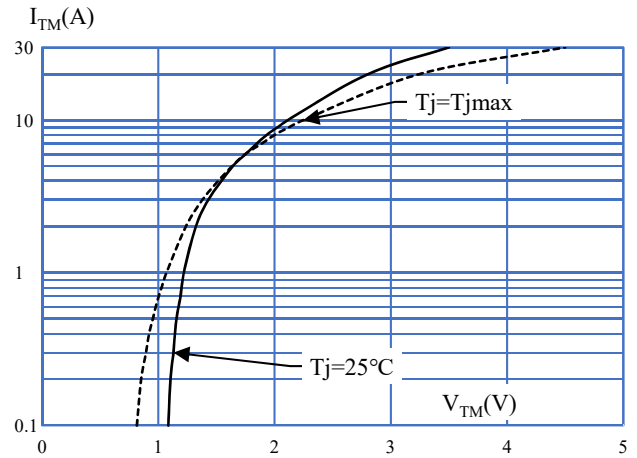


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 20\text{ms}$ , and corresponding value of  $I^2t$  ( I - II - III:  $dI/dt < 50\text{A}/\mu\text{s}$ ; IV:  $dI/dt < 10\text{A}/\mu\text{s}$ )

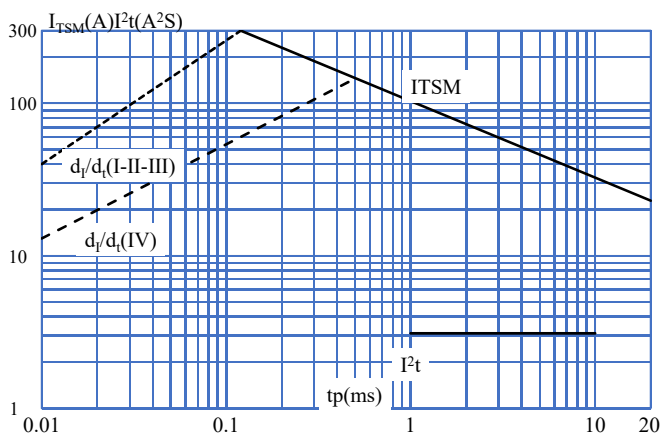
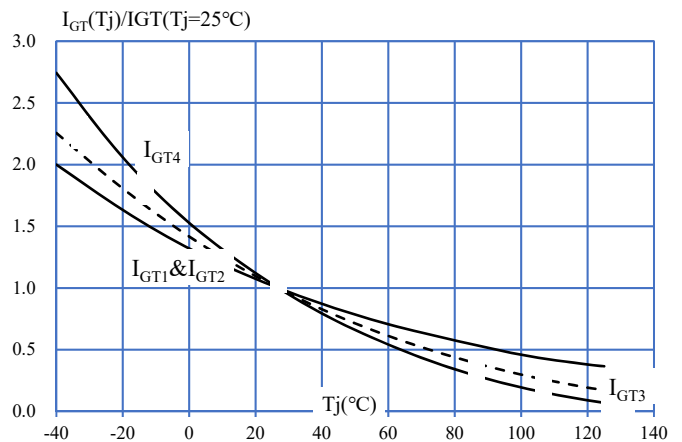


FIG.6: Relative variations of gate trigger current versus junction temperature





# ACYMB0425 Series

FIG.7: Relative variations of holding current versus junction temperature

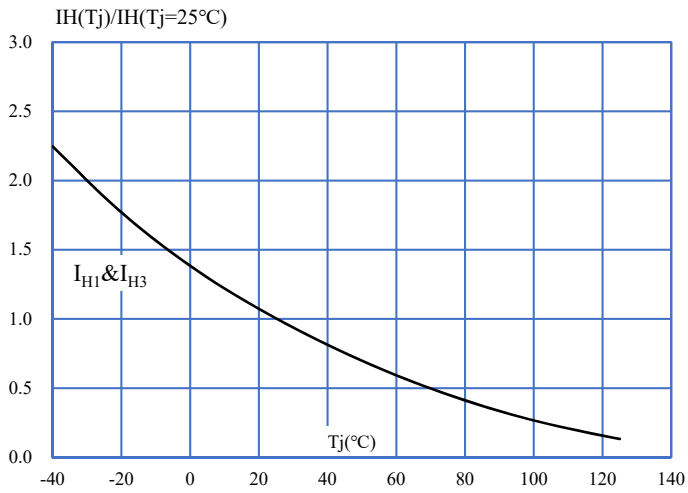
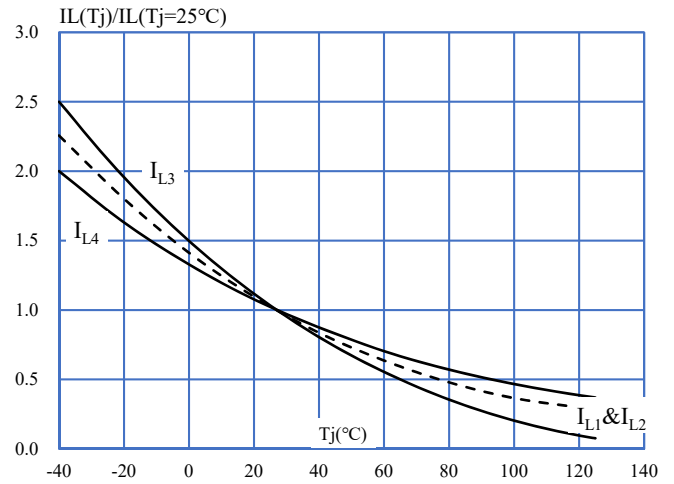
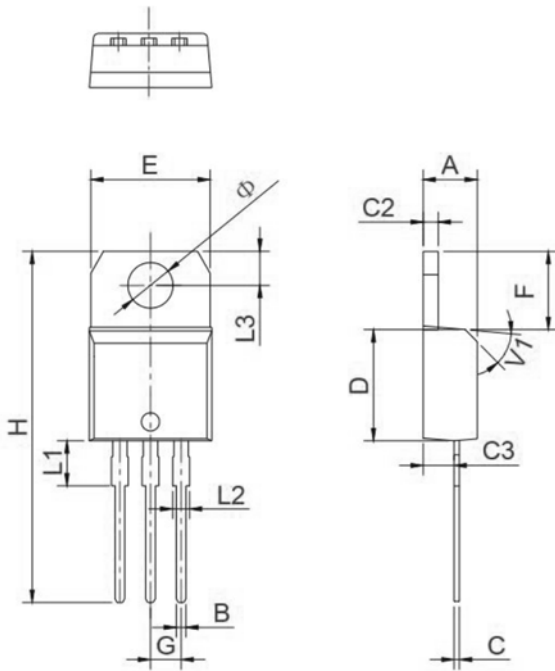


FIG.8: Relative variations of latching current versus junction temperature



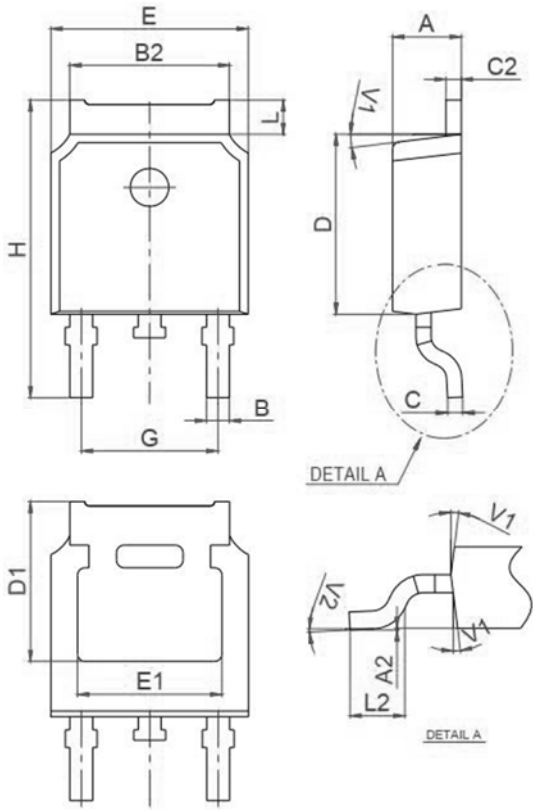
## ■ Outline Dimensions



Symbol	Min.(mm)	Typ.(mm)	Max.(mm)
A	2.2		2.4
A2	0		0.1
B	0.66		0.86
B2	5.1		5.46
C	0.46		0.58
C2	0.44		0.58
D	5.9		6.3
D1		5.30	
E	6.4		6.8
E1	4.63		
G	4.372		4.772
H	9.8		10.4
L	1.09		1.21
L2	1.35		1.65
V1		7°	
V2	0°		6°

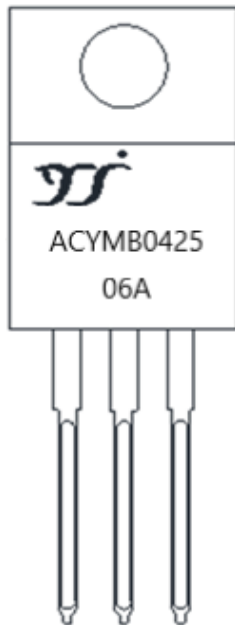


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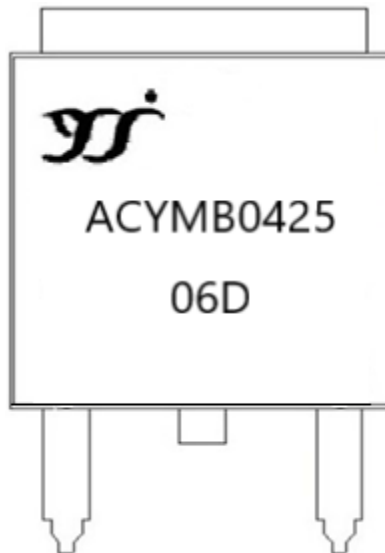


Symbol	Min.(mm)	Typ.(mm)	Max.(mm)
A	4.4	4.47	4.6
B	0.61		0.88
C	0.46	0.50	0.7
C2	1.21	1.27	1.32
C3	2.4		2.72
D	8.6		9.7
E	9.8		10.4
F	6.56		6.95
G		2.54	
H	28		29.8
L1		3.75	
L2	1.14		1.7
L3	2.65		2.95
V1		45°	
Φ	3.7	3.75	3.8

## ■ Marking information



(TO-220AB-1 Package)



(TO-252-1 Package)



## ACYMB0425 Series

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