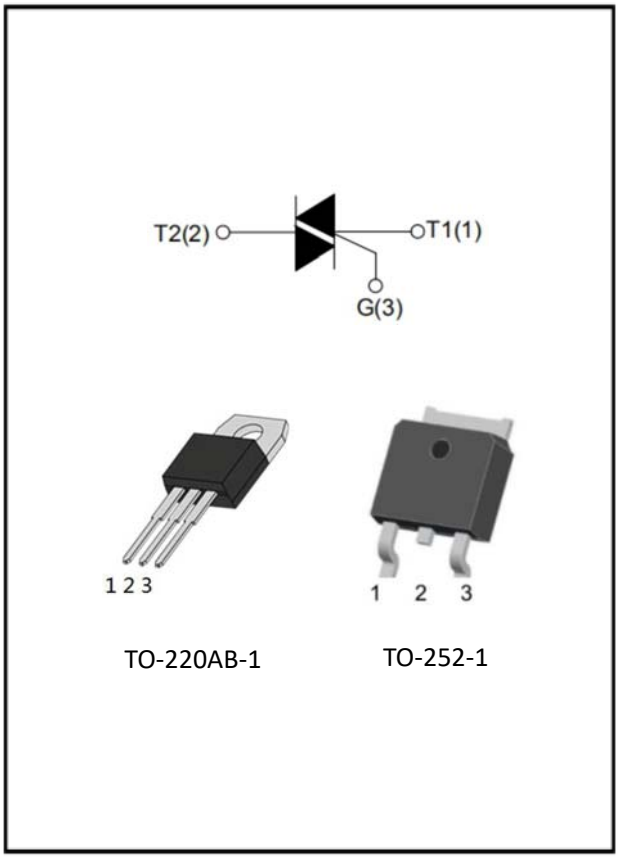
ACYMB0425 Series

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

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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	Tstg		-40~150	℃
Operating junction temperature range	Tj		-40~125	℃
Repetitive surge peak Off-state voltage (Tj=25℃)	V_{DRM}		600	V
Repetitive peak reverse voltage (Tj=25℃)	V_{RRM}		600	V
RMS on-state current	$I_{T(RMS)}$		4	A
Non-repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}		35	A
I^2t value for fusing (tp=10ms)	I^2t		6.1	A^2s
Critical rate of rise of on-state current (IG=2×I_{GT})	di/dt	50	50	A/μs
		10	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

■Electrical Characteristics（T_a=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	QUADRANT	MIN	TYP	MAX
Gate trigger current	I_{GT}	mA	V_D=12V, R_L=33Ω	Ⅰ-Ⅱ-Ⅲ			10
				Ⅳ			25
Gate trigger voltage	V_{GT}	V	V_D=12V, R_L=33Ω	Ⅰ-Ⅱ-Ⅲ-Ⅳ			1.3
Non-triggering gate voltage	V_{GD}	V	V_D=V_{DRM}	Ⅰ-Ⅱ-Ⅲ-Ⅳ	0.2		
Holding current	I_H	mA	I_T=100mA	Ⅰ-Ⅱ-Ⅲ-Ⅳ			
Latching current	I_L	mA	I_G=1.2 I_{GT}	Ⅰ-Ⅲ-Ⅳ			20
				Ⅱ			35
Rate of rise of off-state voltage	dV/dt	V/□s	V_D=0.66×V_{DRM} Tj=125℃ Gate open	Ⅰ-Ⅱ-Ⅲ-Ⅳ	50		

■Static Characteristics （T_a=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MAX
Peak on-state voltage	V_{TM}	V	I_{TM}=5.5A t_p=380μS	1.6
Peak off-state current Peak reverse current	I_{DRM} I_{RRM}	μA	V_{DRM}= V_{RRM}，Tj=25℃	5
		mA	V_{DRM}= V_{RRM}，Tj=125℃	0.5

■Thermal Resistance （Ta=25℃ Unless otherwise specified）

PARAMETER		SYMBOL	UNIT	Pacakge	Value
Thermal Resistance (Typical)	Junction to case	$R_{θJ-C}$	℃/W	TO-220AB-1	2.6
			℃/W	TO-252-1	2.8

■ Characteristics (Typical)

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

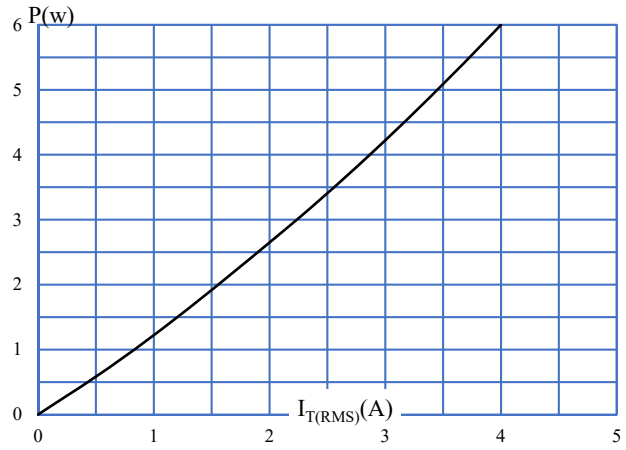


FIG.2：RMS on-state current versus case temperature

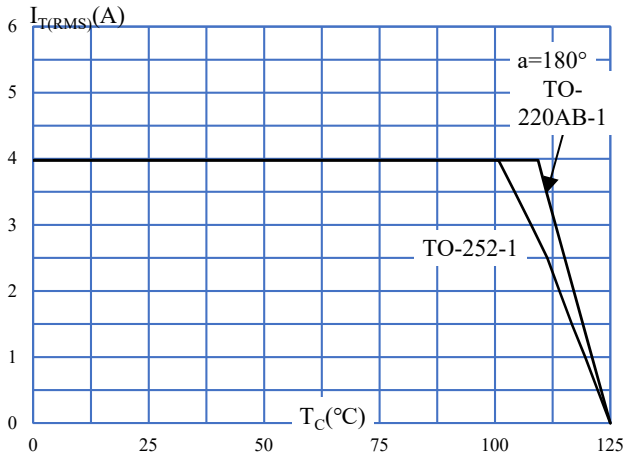


FIG.3：Surge peak on-state current versus number of cycles

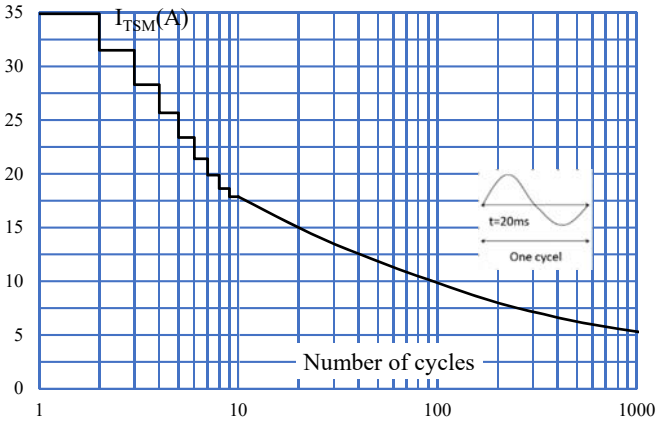


FIG.4：On-state haracteristics(maximum values)

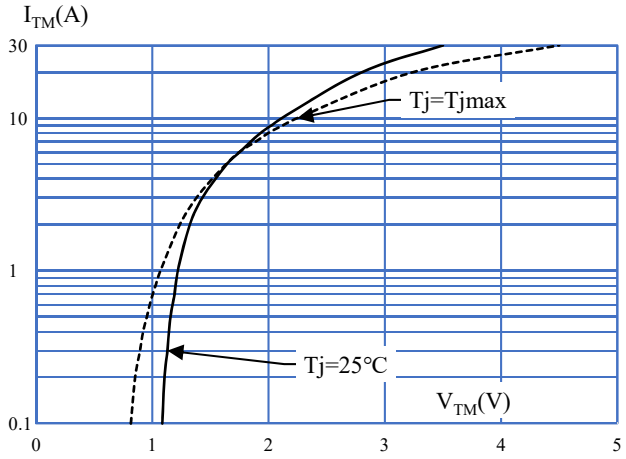


FIG.5：Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms, and corresponging value of I2t (Ⅰ-Ⅱ-Ⅲ:dI/dt < 50A/μs;Ⅳ:dI/dt < 10A/μs)

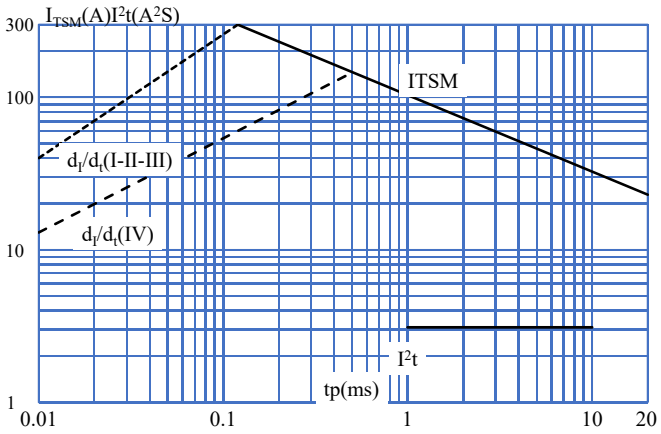


FIG.6：Relative variations of gate trigger current versus junction temperature

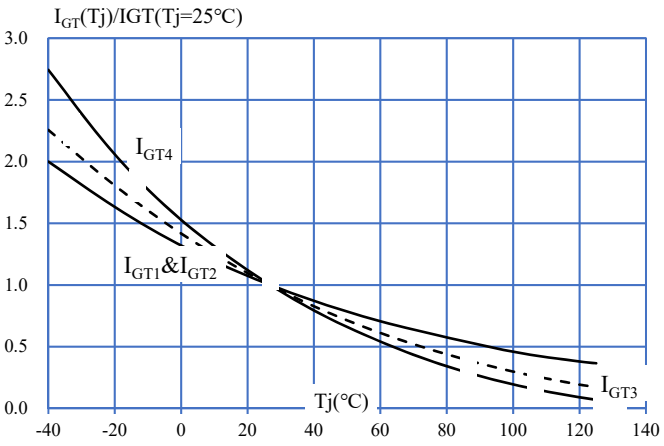


FIG.7：Relative variations of holding current versus junction temperature

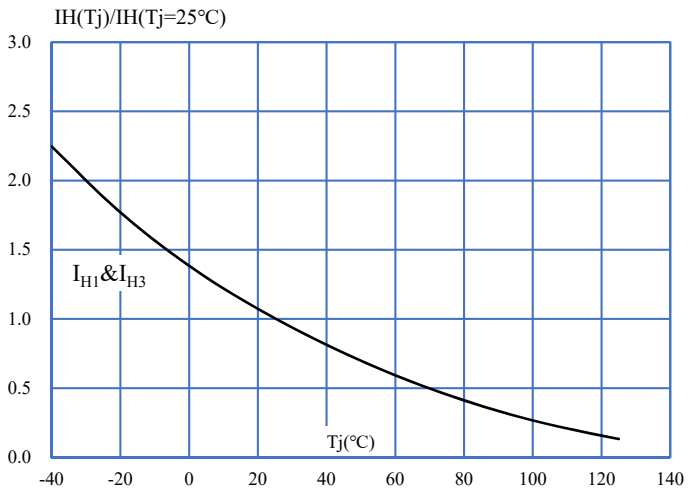
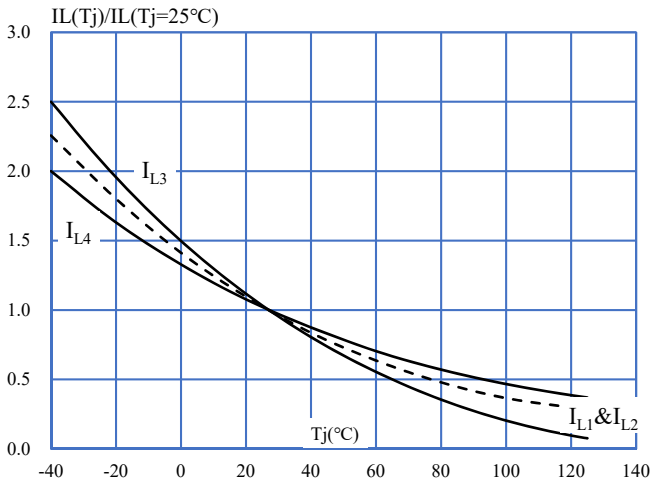
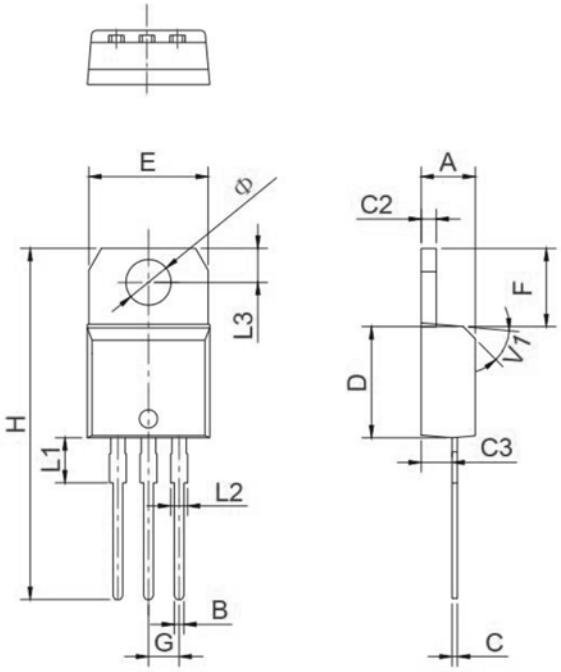


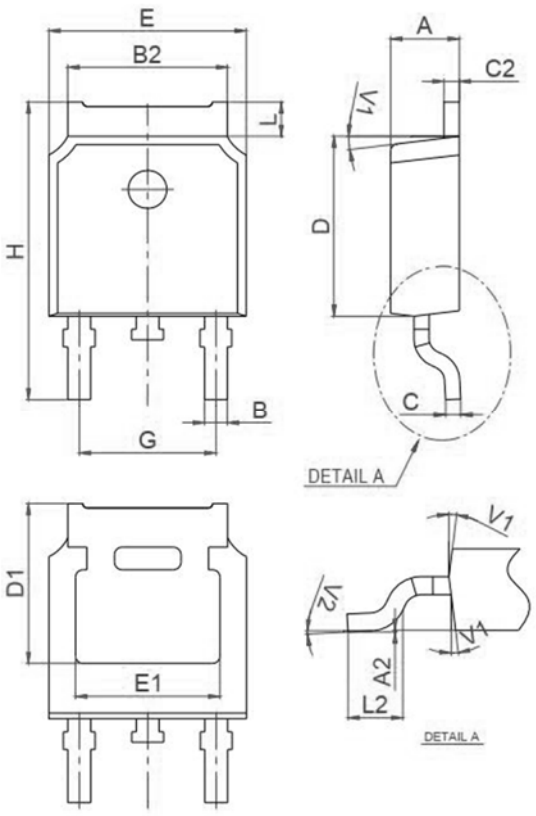
FIG.8：Relative variations of latching current versus junction temperature



■ Outline Dimensions

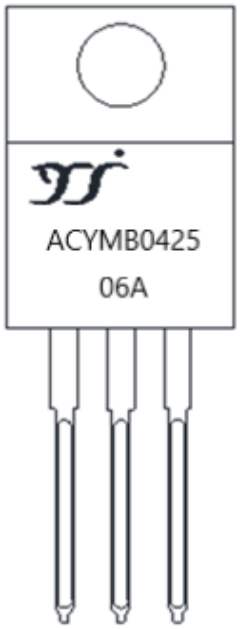


Symbol	Min.(mm)	Typ.(mm)	Max.(mm)
A	2.2		2.4
A2	0		0.1
B	0.66		0.86
B2	5.1		5.46
C	0.46		0.58
C2	0.44		0.58
D	5.9		6.3
D1		5.30	
E	6.4		6.8
E1	4.63		
G	4.372		4.772
H	9.8		10.4
L	1.09		1.21
L2	1.35		1.65
V1		7°	
V2	0°		6°

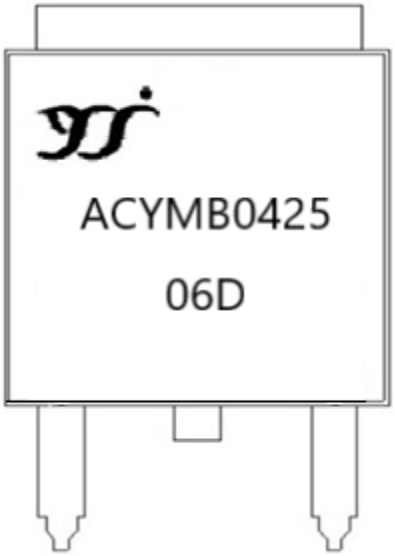


Symbol	Min.(mm)	Typ.(mm)	Max.(mm)
A	4.4	4.47	4.6
B	0.61		0.88
C	0.46	0.50	0.7
C2	1.21	1.27	1.32
C3	2.4		2.72
D	8.6		9.7
E	9.8		10.4
F	6.56		6.95
G		2.54	
H	28		29.8
L1		3.75	
L2	1.14		1.7
L3	2.65		2.95
V1		45°	
Φ	3.7	3.75	3.8

■ Marking information



(TO-220AB-1 Package)



(TO-252-1 Package)

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