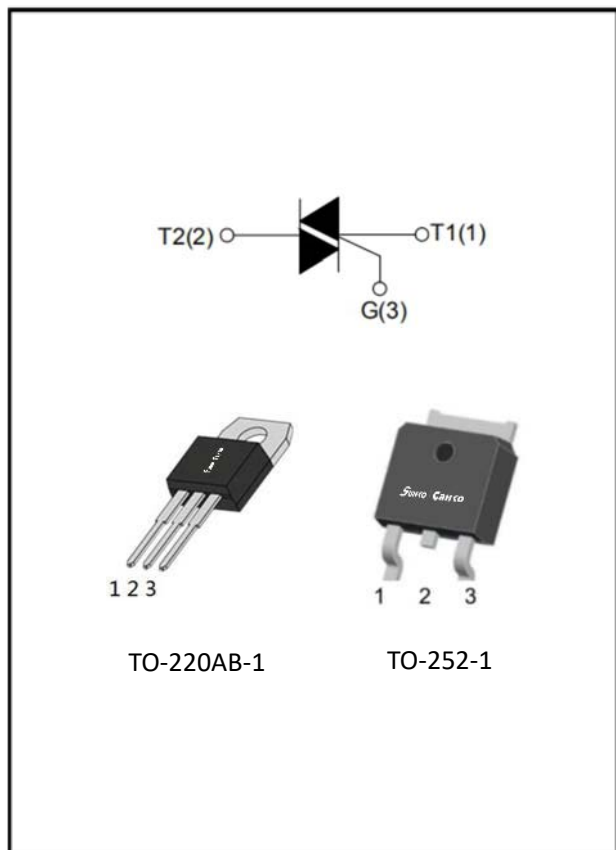


4A 4Q Triac



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	PACKAGE
ACYMB0425SC-06A	TO-220AB-1
ACYMB0425SC-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 ($T_j=25^{\circ}C$)	V_{DRM}	600	V
Repetitive peak reverse voltage ($T_j=25^{\circ}C$)	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}	25	A
I^2t value for fusing ($t_p=10ms$)	I^2t	3.1	A ² s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)	di/dt	50	A/ μs
		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°C 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/μs	V _D =0.66×V _{DRM} T _j =125°C Gate open	I - II - III - IV	100		

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MAX
Peak on-state voltage	V _{TM}	V	I _{TM} =5.5A t _p =380μs	1.7
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 =125°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	2.6
			°C/W	TO-252-1	2.8

■ Characteristics (Typical)

FIG.1 Maximum power dissipation versus Average on-state current

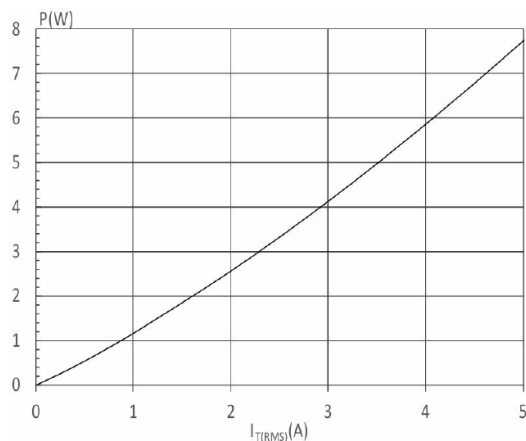


FIG.2: on-state current versus case temperature

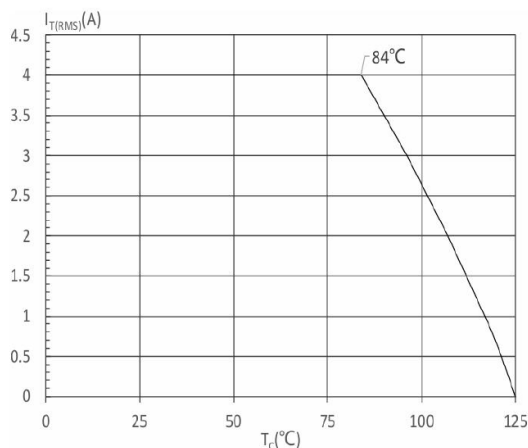


FIG.3: Surge peak on-state current versus number of cycles

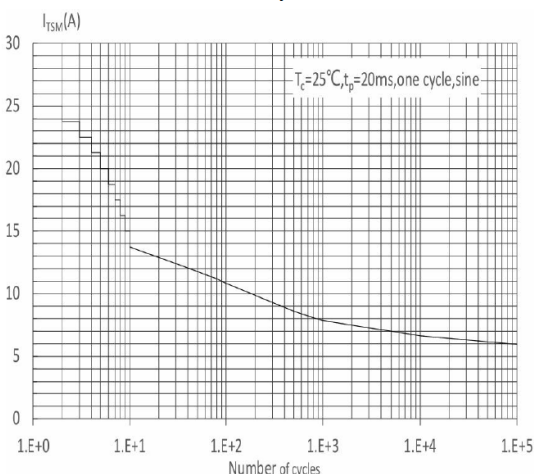


FIG.4: On-state characteristics (maximum values)

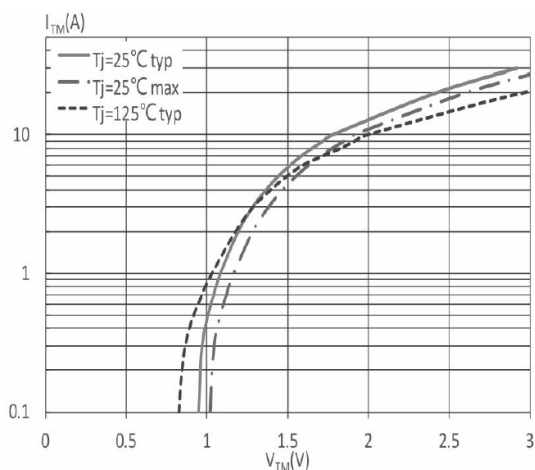


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of $I_2 t$ ($di/dt < 50\text{A}/\mu\text{s}$)

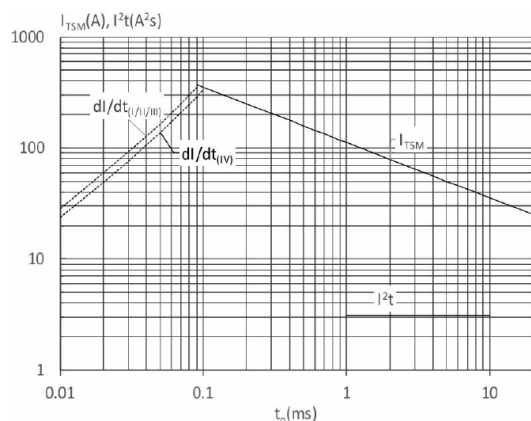
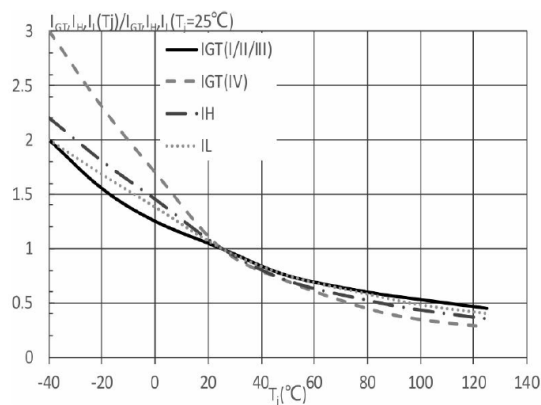
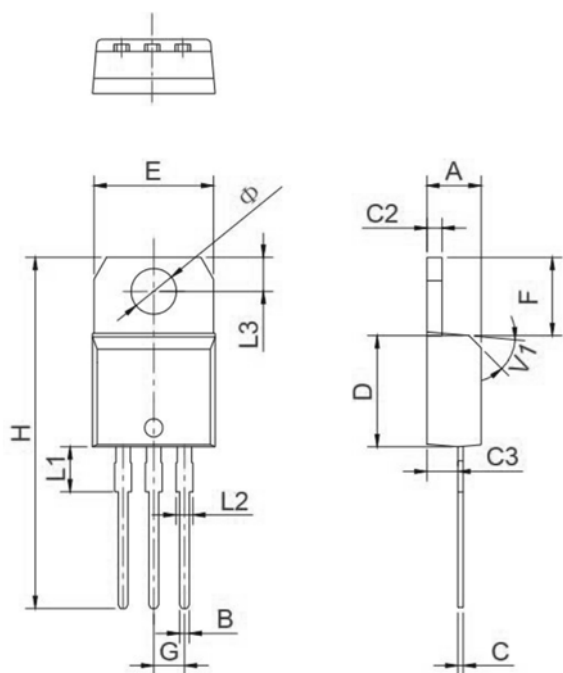


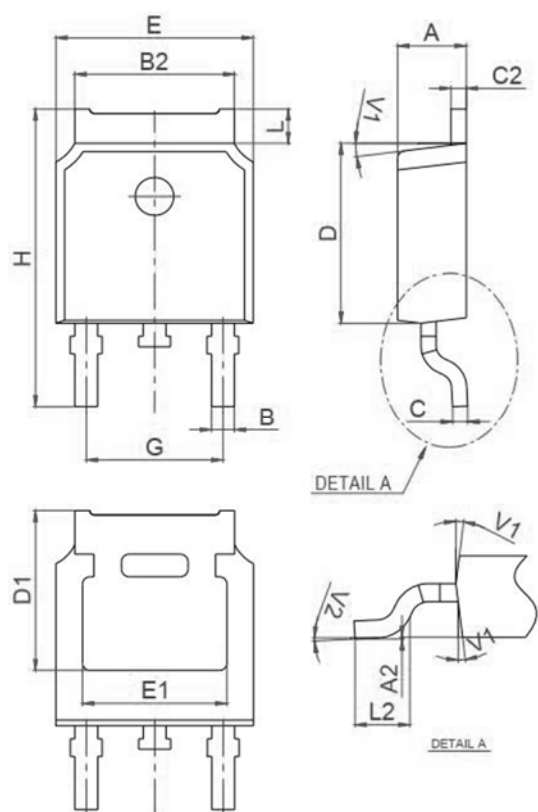
FIG.6: Relative variations of gate trigger current holding current and latching current versus junction temperature



■ 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

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