

8A 4Q Triac

Features

- On-state RMS current, $I_{T(RMS)}$ 8 A
- Repetitive peak off-state voltage, V_{DRM}/V_{RRM} 800 V
- Triggering gate current, $I_{GT(Q1)}$ 10 mA

Applications

- General purpose switching and phase control
- General purpose switching

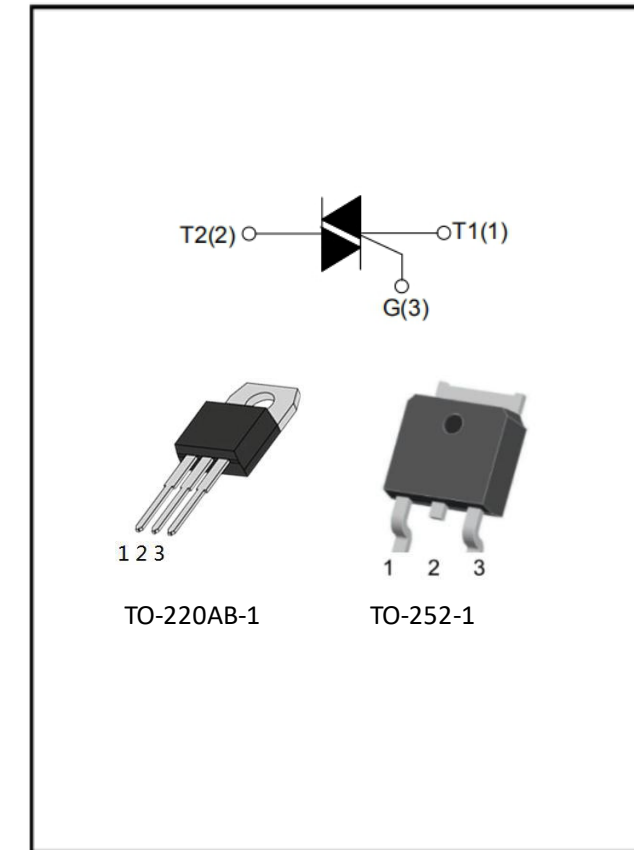
Mechanical Data

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

DEVICE	PACAKGE
ACYMB0820-08A	TO-220AB-1
ACYMB0820-08D	TO-252-1

Main Characteristics

SYMBOL	LIMITS	UNIT
$I_{T(RMS)}$	8	A
V_{DRM}/V_{RRM}	800	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}	800	V
Repetitive peak reverse voltage ($T_j=25^{\circ}C$)	V_{RRM}	800	V
RMS on-state current	$I_{T(RMS)}$	8	A
Non-repetitive surge peak on-state current (full cycle, $F=50Hz$)	I_{TSM}	80	A
I^2t value for fusing ($t_p=10ms$)	I^2t	32	A ² s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)	di/dt	100	A/ μ s
Peak gate current	I_{GM}	4	A
Average gate power dissipation	$P_{G(AV)}$	1	W
Peak gate power	P_{GM}	5	W



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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	QUADRANT	MIN	TYP	MAX
Gate trigger current	IGT	mA	VD=12V, RL=33Ω	I - II -III			10
				IV			20
Gate trigger voltage	VGT	V	VD=12V, RL=33Ω	ALL			1.5
Non-triggering gate voltage	VGD	V	VD=VDRM	ALL	0.2		
Holding current	IH	mA	IT=100mA	ALL			40
Latching current	IL	mA	IG=1.2 IGT	I -III-IV			50
				II			70
Rate of rise of off-state voltage	dV/dt	V/μs	VD=0.66×VDRM Tj=125℃ Gate open	ALL	200		

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MAX
Peak on-state voltage	VTM	V	ITM=11A tp=380μS	1.5
Peak off-state current Peak reverse current	IDRM IRRM	μA	VDRM= VRRM, Tj=25℃	5
		mA	VDRM= VRRM, Tj=125℃	1

■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	2.9
Thermal Resistance (Typical)	Junction to case	R _{θJ-C}	℃/W	TO-252-1	2.0



■ Characteristics (Typical)

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

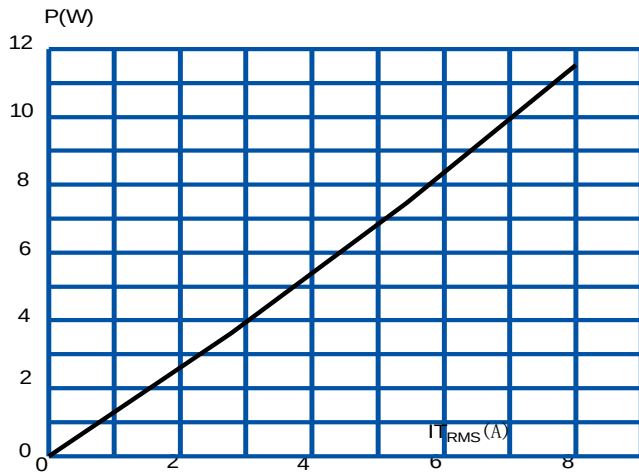


FIG.3: Surge peak on-state current versus number of cycles

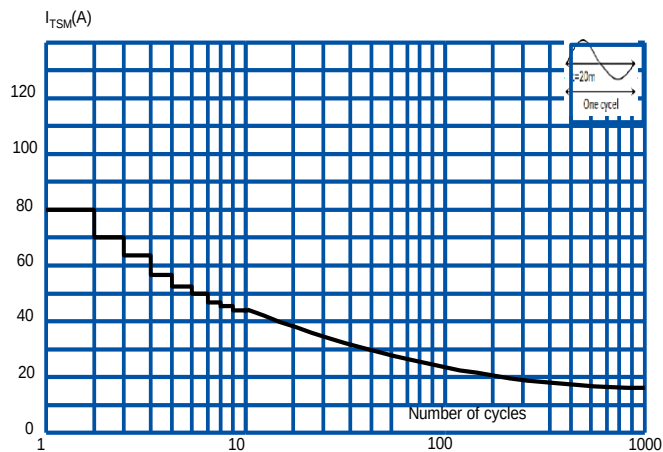


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I_{T2t} ($I - II - III: dI/dt < 50\text{A}/\mu\text{s}$;))

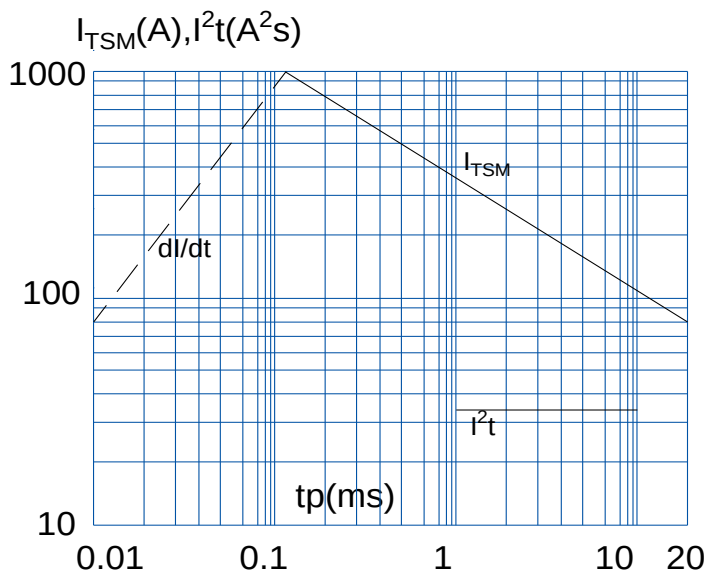


FIG.2: RMS on-state current versus case temperature

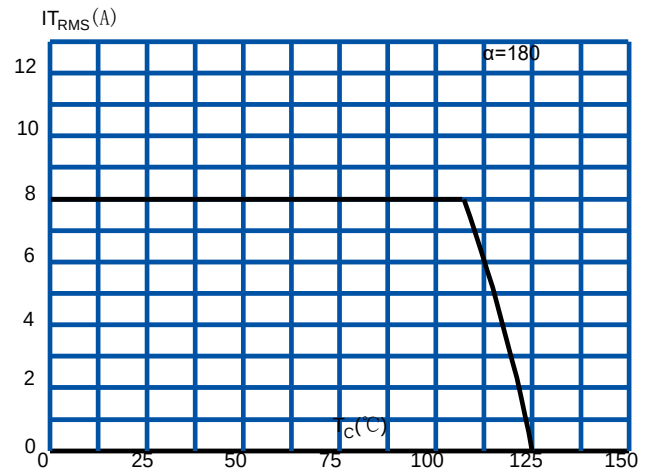


FIG.4: On-state characteristics(maximum values)

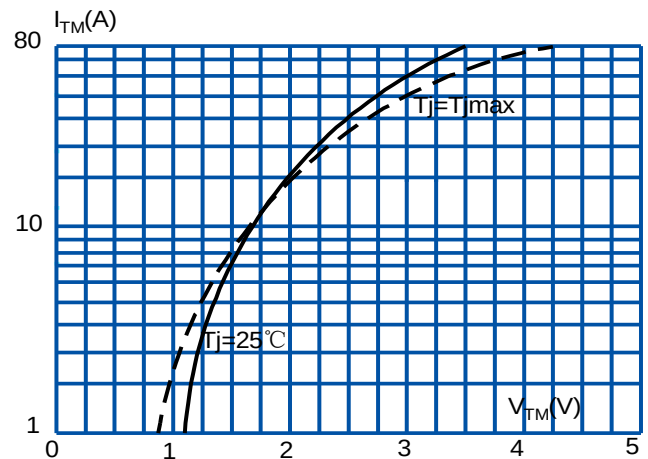
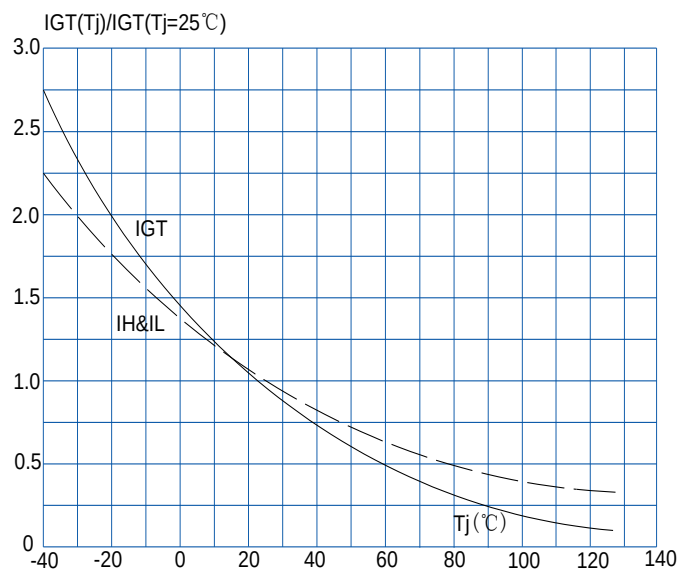


FIG.6: Relative variations of gate trigger current versus junction temperature

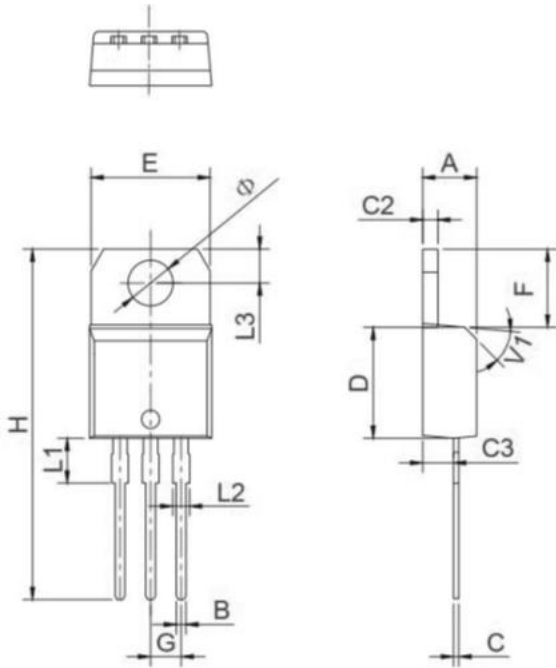




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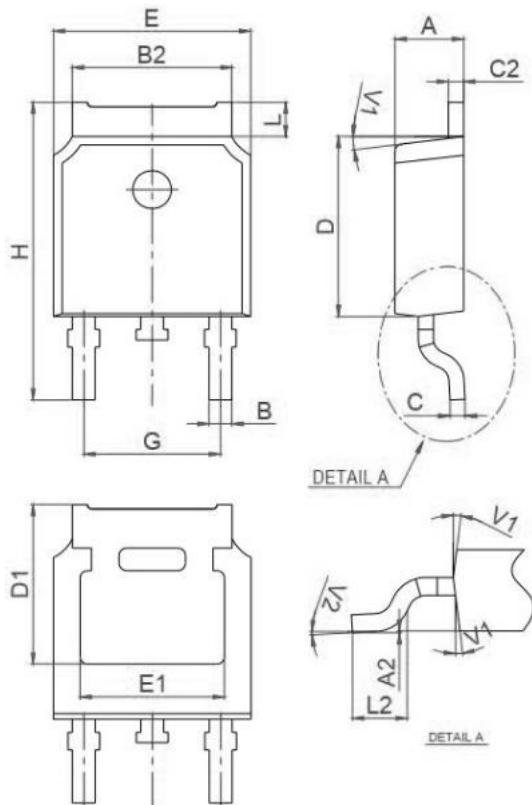
■ Outline Dimensions

TO-220AB-1 Package Dimensions



Symbol	Min.(mm)	Typ.(mm)	Max.(mm)
A	4.4	4.47	4.6
B	0.61		0.88
C	0.46	0.50	0.70
C2	1.21	1.27	1.32
C3	2.4		2.72
D	8.6		9.7
E	9.8		10.4
F	6.4		6.8
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

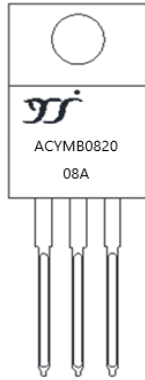
TO-252-1 Package Dimensions



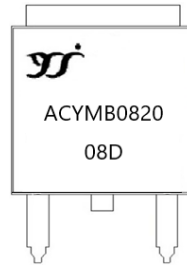
Symbol	Min.(mm)	Typ.(mm)	Max.(mm)
A	2.2		2.4
A2	0		0.1
B	0.66		0.86
B2	5.1		5.46
C	0.46		0.58
C2	0.44		0.58
D	5.9		6.3
D1		5.30	
E	6.4		6.8
E1	4.63		
G	4.372		4.772
H	9.8		10.4
L	0.98		1.21
L2	1.35		1.65
V1		7°	
V2	0°		6°



■ Marking information



(TO-220AB-1 Package)



(TO-252-1 Package)



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