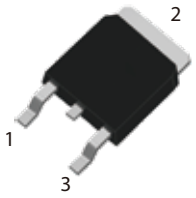
FEATURES

- Direct interfacing to logic level ICs
- Direct interfacing to low power gate drive circuits
- High blocking voltage capability
- Planar passivated for voltage ruggedness and reliability
- Triggering in all four quadrant



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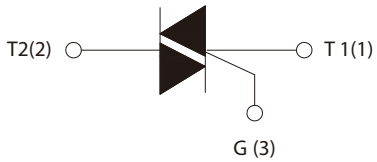
APPLICATIONS

- General purpose motor control circuits
- Phase control operations in light dimmers and motor speed controllers
- Home appliances



Schematic Symbol

ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Repetitive peak off-state voltage (T_j=25℃)		V_{DRM}	600	V
Repetitive peak reverse voltage (T_j=25℃)		V_{RRM}	600	V
RMS on-state current (T_C=100℃)		$I_{T(RMS)}$	4	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)		I_{TSM}	35	
I²t value for fusing (tp=10ms)		I²t	6.1	A²S
Critical rate of rise of on-state current (I_G=2*I_{GT})	Ⅰ-Ⅱ-Ⅲ	d_I/d_t	50	A/μs
	Ⅳ		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
Operating junction temperature range		T_j	-40~+125	℃
Storage junction temperature range		T_{STG}	-40~+150	

ELECTRICAL CHARACTERISTICS (T_j=25℃ unless otherwise specified)

Symbol	Test Condition	Quadrant	Value				Unit
			T	D	E	F	
I_{GT}	V_D=12V	Ⅰ-Ⅱ-Ⅲ	≤5	≤5	≤10	≤25	mA
		Ⅳ	≤5	≤10	≤25	≤70	
V_{GT}		ALL	≤1.3				V
V_{GD}	V_D=V_{DRM},R_L=3.3KΩ,T_j=125℃		≥0.2				V
I_H	I_T=100mA		≤5	≤15	≤25	≤30	mA
I_L	I_G=1.2I_{GT}	Ⅰ-Ⅲ	≤10	≤20	≤30	≤40	
		Ⅱ-Ⅳ	≤15	≤35	≤45	≤60	
dV_D/dt	V_D=67%V_{DRM},T_j=125℃		≥20	≥50	≥100	≥150	V/μs
V_{TM}	I_{TM}=5.5A,tp=380μs		≤1.6				V
I_{DRM}	V_D=V_{DRM}, V_R=V_{RRM}	T_j=25℃	≤5				uA
I_{RRM}		T_j=125℃	≤0.5				mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction to case(AC)	2.8	℃/W

PARAMETER CHARACTERISTIC CURVE

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

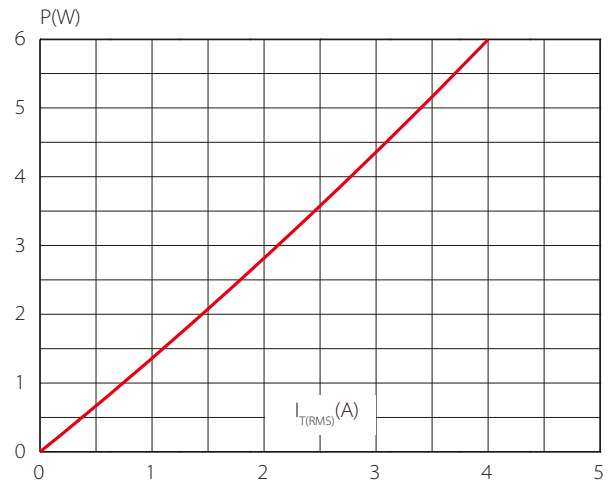


FIG.2: RMS on-state current versus ambient temperature (printed circuit board FR4, copper thickness: 35µm)

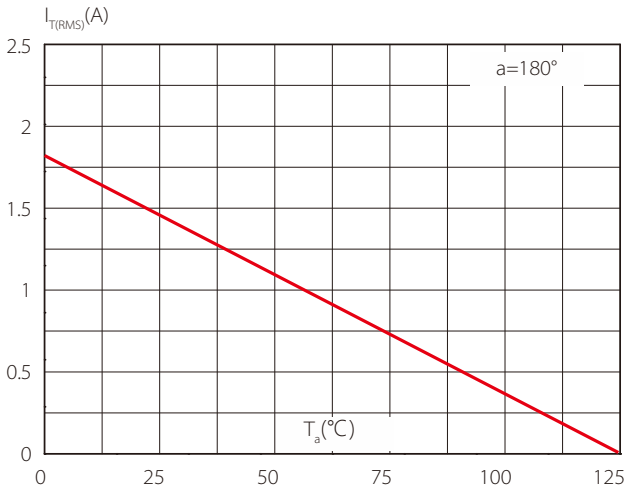


FIG.3: Surge peak on-state current versusnumber of cycles

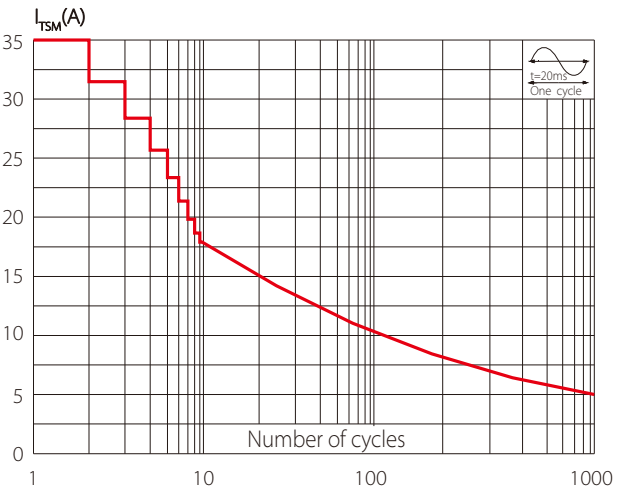


FIG.4 On-state characteristics (maximum values)

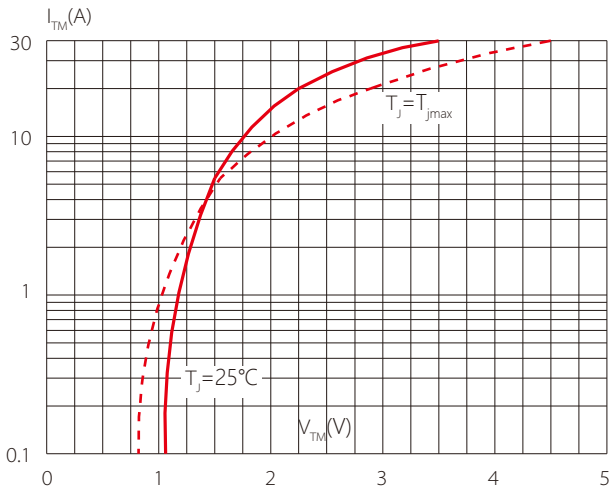


FIG.5: Non-repetitive surge peak on-state currentfor a sinusoidal pulse with width tp<20ms andcorresponding value of I²t (dI/dt < 50A/µs)

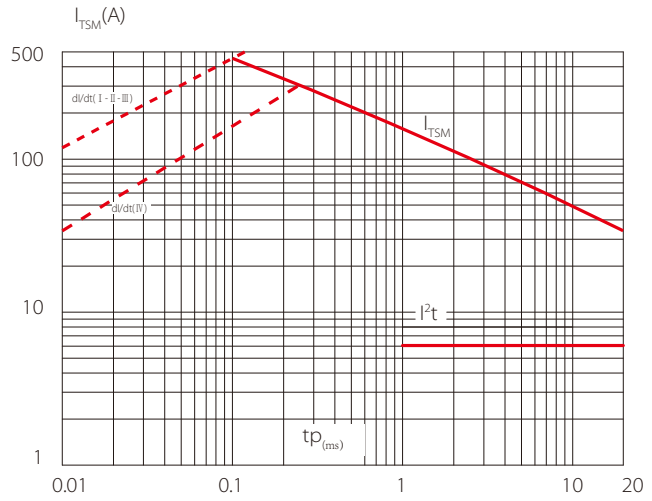


FIG.6 Relative variations of gate trigger current versus junction temperature

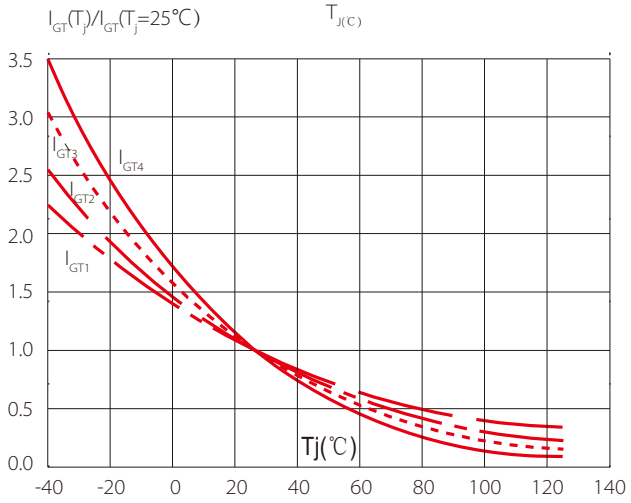


FIG.7 Relative variations of holding current versus junction temperature

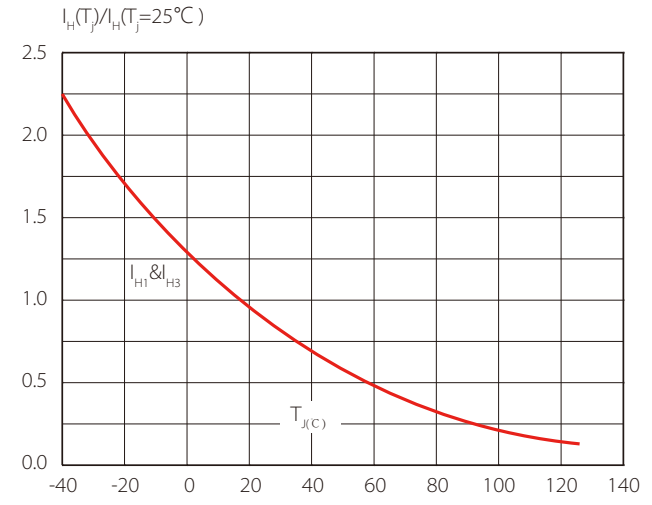
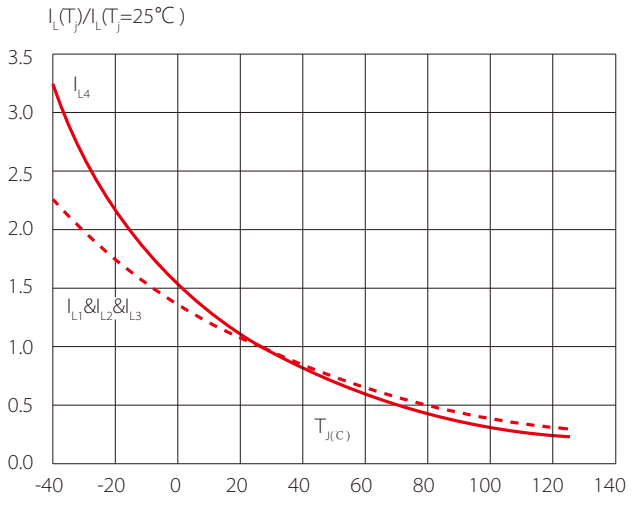
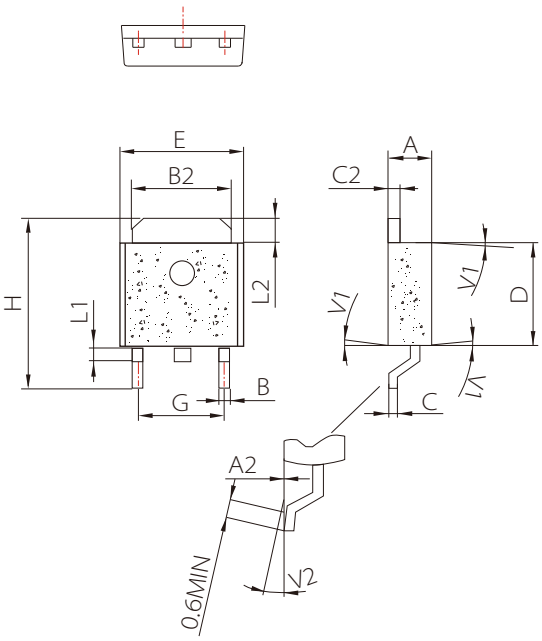


FIG.8 Relative variations of atching current versus junction temperature



PACKAGE MECHANICAL DATA



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Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.095
A2	0.03		0.23	0.001		0.009
B	0.55		0.65	0.022		0.026
B2	5.10		5.40	0.200		0.213
C	0.45		0.62	0.018		0.024
C2	0.48		0.62	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.70	0.252		0.264
G	4.40		4.70	0.173	0.1	0.185
H	9.35		10.6	0.368		0.417
L1	1.30		1.70	0.051	0.143	0.067
L2	1.37		1.50	0.054		0.059
L1		4°			0.130	
V2	0°		8°	0°		8°

ORDERING INFORMATION

Part Number	Package	QTY/Reel	Reel Size
STD4Q60T(D/E/F)	TO-252	2500CS	13″

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