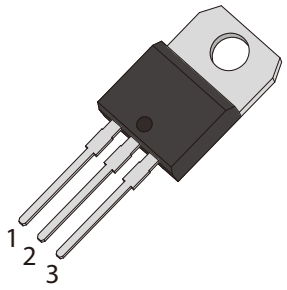
FEATURES

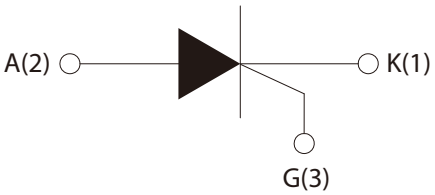
- Glass-passivated mesa chip for reliability and uniform
- High current output up to 10A
- RoHS (2002/95/EC) compliant packages



TO-220A

APPLICATIONS

- Motor cycle
- Power charger
- T-tools etc



Schematic Symbol

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Repetitive peak off-state voltage (T_j=25℃)	V_{DRM}	800	V
Repetitive peak reverse voltage (T_j=25℃)	V_{RRM}	800	
RMS on-state current(T_C=110℃)	$I_{T(RMS)}$	10	A
Non repetitive surge peak on-state current (tp=10ms)	I_{TSM}	120	
I²t value for fusing (tp=10ms)	I²t	72	A²S
Critical rate of rise of on-state current (I_G=2*I_{GT})	d_I/d_t	50	A/μs
Peak gate current	I_{GM}	4	A
Average gate power dissipation	$P_{G(AV)}$	1	W
Storage junction temperature range	T_{STG}	-40~+150	℃
Operating junction temperature range	T_j	-40~+125	

ELECTRICAL CHARACTERISTICS (T_j=25℃ unless otherwise specified)

Symbol	Test Condition	Value	Unit
I_{GT}	V_D=12V,R_L=33Ω	≤10	mA
V_{GT}		≤1.5	V
V_{GD}	V_D=V_{DRM},R_L=3.3KΩ,T_j=150℃	≥0.2	
I_H	I_T=500mA	≤30	mA
I_L	I_G=1.2I_{GT}	≤40	
dV_D/dt	V_D=2/3,V_{DRM} Gate Open,T_j=150℃	≥200	V/μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value	Unit
V_{TM}	I_{TM}=20A,tp=380μs	T_j=25℃	≤1.55	V
I_{DRM}	V_D=V_{DRM}, V_R=V_{RRM}		≤5	uA
I_{RRM}		T_j=150℃	≤1	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction to case(AC)	2.5	℃/W

PARAMETER CHARACTERISTIC CURVE

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

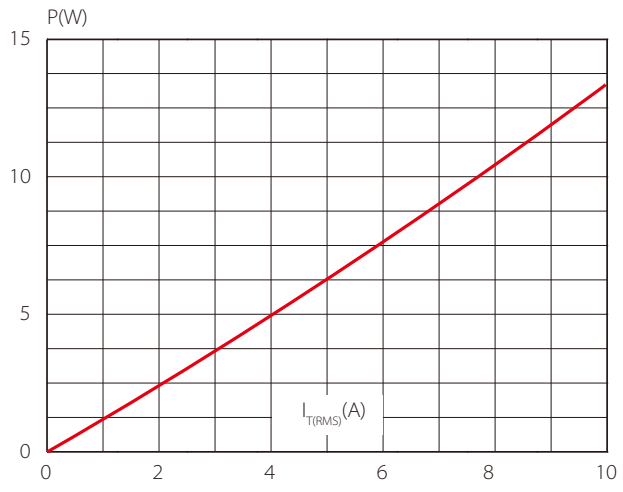


FIG.2: RMS on-state current versus case temperature

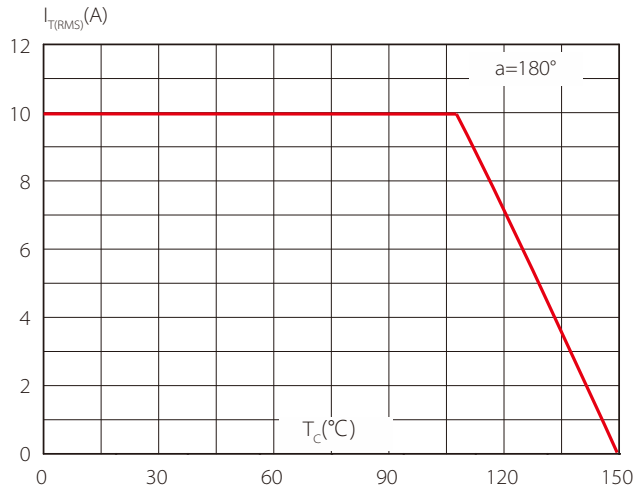


FIG.3: Surge peak on-state current versusnumber of cycles

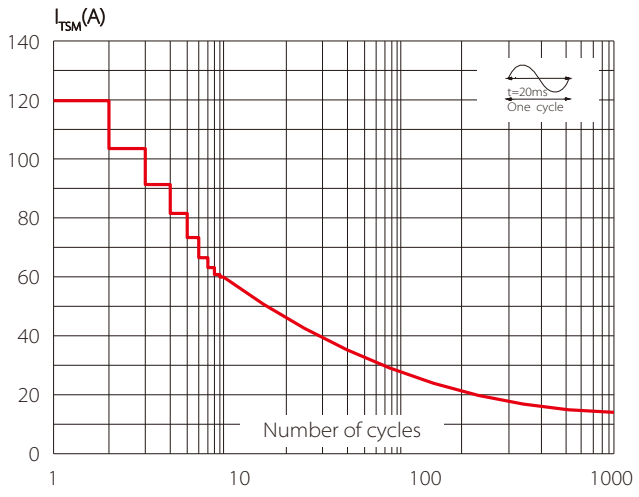


FIG.4 On-state characteristics (maximum values)

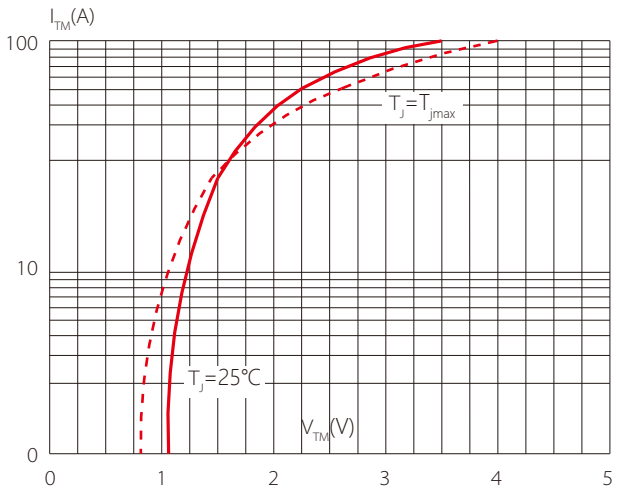


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<10ms and corresponding value of I²t (dI/dt < 50A/μs)

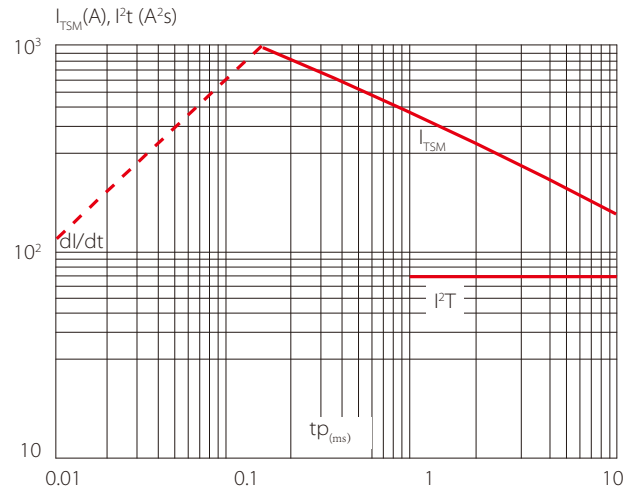


FIG.6 Relative variations of gate triggercurrent, holding current and latching current versus junction temperature

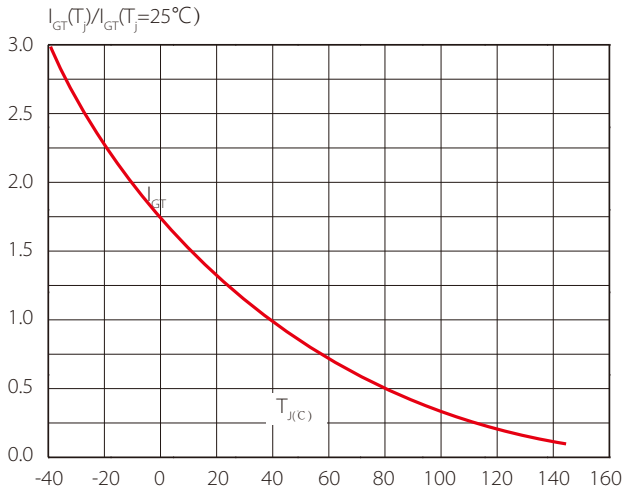


FIG.7 Relative variations of holding current versus junction temperature

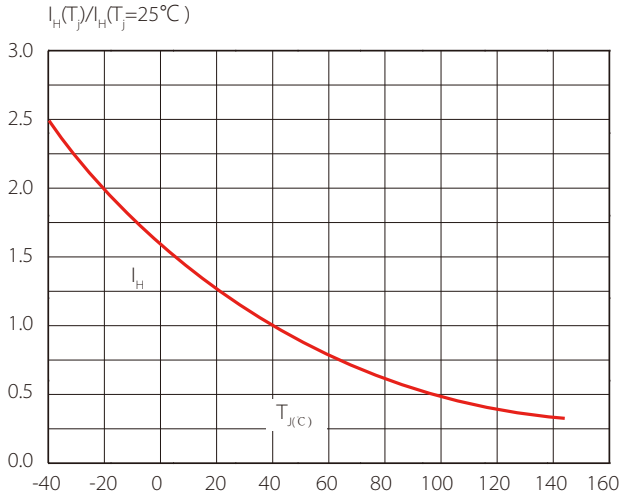
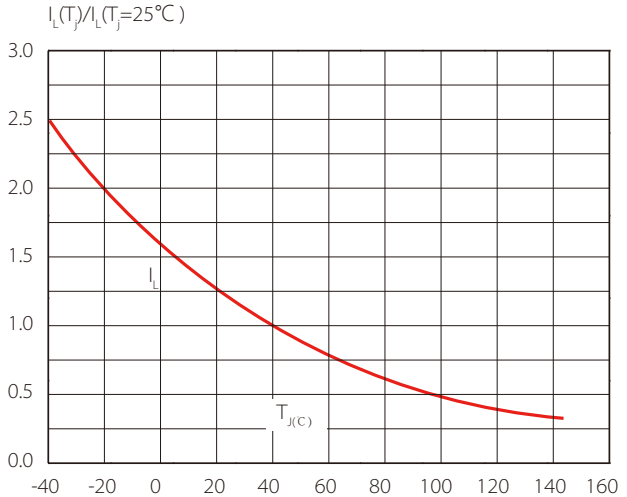
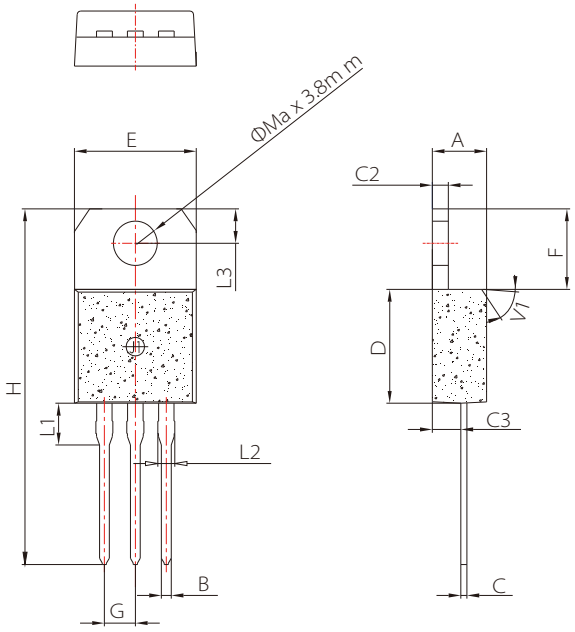


FIG.8 Relative variations of atching current versus junction temperature



PACKAGE MECHANICAL DATA



TO-220A

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.55		6.95	0.258		0.274
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	

ORDERING INFORMATION

Part Number	Package	Qty/pcs		
		Tube	Inner Box	Carton
SCA10C80	TO-220A	50	1000	5000

Headquarters
No.3387 Shendu Road Pujiang
I&E Park
Minhang Shanghai China
201000

Hotline
400-021-5756

Web
Https://www.semiware.com

Sales center
Tel: 86-21-3463-7458
Email: sales18@semiware.com

Customer Service
Tel: 86-21-5484-1001
Email: sales17@semiware.com

Technical Support
Tel: 86-21-3463-7654
Email: fae01@semiware.com

Complaint & Suggestions
Tel: 86-21-3463-7172
Ext: 8868
Email: cs03@semiware.com

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