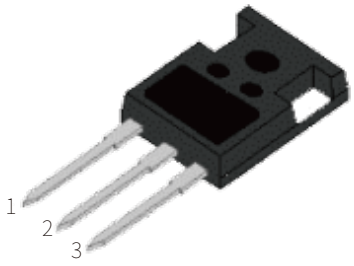
FEATURES

- Glass-passivated mesa chip for reliability and uniform
- High current output up to 80A



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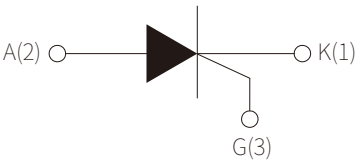
APPLICATIONS

- 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°C)	V_{DRM}	1600	V
Repetitive peak reverse voltage (T_j=25°C)	V_{RRM}	1600	
Average on-state current (T_C=⩽65°C)	$I_{T(AV)}$	80	A
Non repetitive surge peak on-state current (tp=10ms,T_j=25°C)	I_{TSM}	1000	
I^2t value for fusing (t_p=10ms,T_j=25°C)	I^2t	5000	A^2S
Critical rate of rise of on-state current (I_G=2*I_{GT} f=100Hz , T_j=150°C)	dI/dt	200	A/μs
Peak gate current (t_p=20us,T_j=150°C)	I_{GM}	12	A
Average gate power dissipation (T_j=150°C)	$P_{G(AV)}$	1	W
Storage junction temperature range	T_{STG}	-40~+150	°C
Operating junction temperature range	T_j	-40~+150	

ELECTRICAL CHARACTERISTICS (T_j=25°C unless otherwise specified)

Symbol	Test Condition	Value			Unit
		Min.	Typ.	Max.	
I_{GT}	V_D=12V,R_L=33Ω	10	-	80	mA
V_{GT}		-	-	1.3	V
V_{GD}	V_D=V_{DRM},R_L=3.3KΩ,T_j=150°C	0.25	-	-	
I_H	I_T=500mA	-	-	250	mA
I_L	I_G=1.2I_{GT}	-	-	200	
dV_D/dt	V_D=1070V Gate Open T_j=150°C	2000	-	-	V/μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value	Unit
V_{TM}	I_{TM}=100A,tp=380μs	T_j=25°C	⩽1.65	V
I_{DRM}	V_D=V_{DRM}, V_R=V_{RRM}		⩽20	uA
I_{RRM}		T_j=150°C	⩽10	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction to case(DC)	0.38	°C/W

PARAMETER CHARACTERISTIC CURVE

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

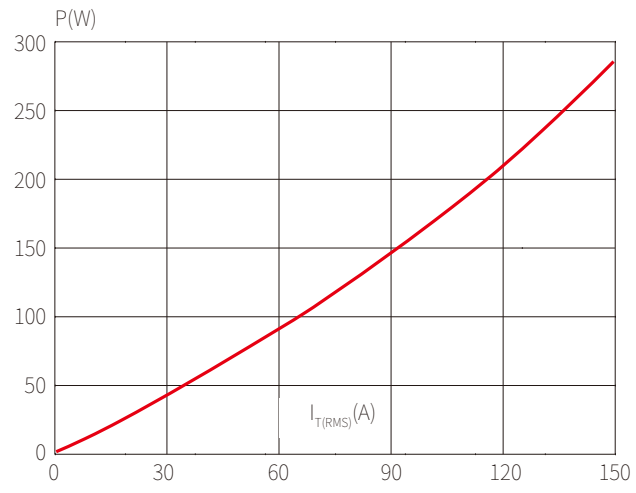


FIG.2: RMS on-state current versus case temperature

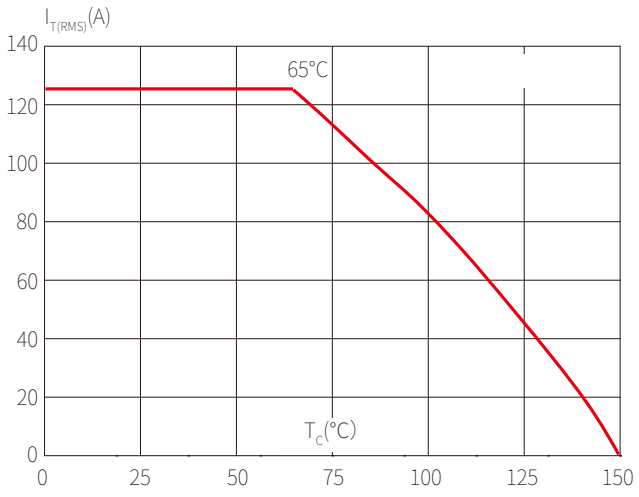


FIG.3: Surge peak on-state current versus number of cycles

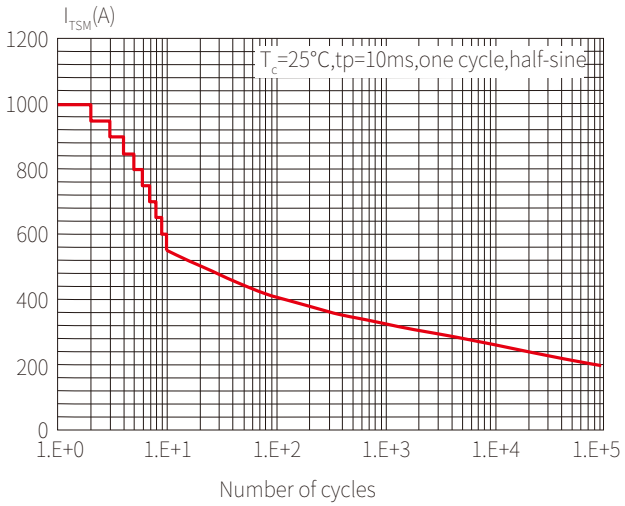


FIG.4 On-state characteristics

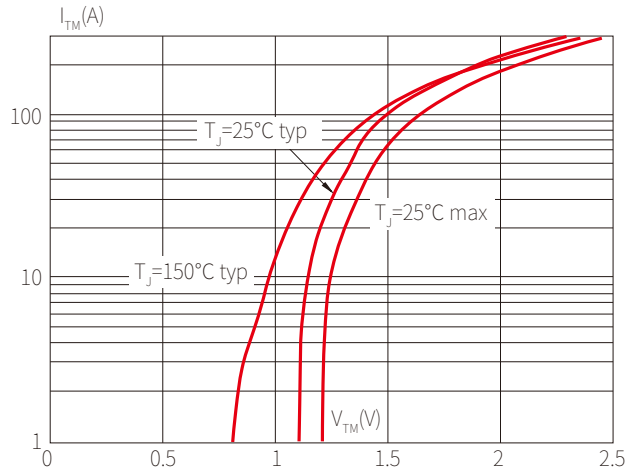


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<10ms and corresponding value of I²t (dI/dt < 200A/μs)

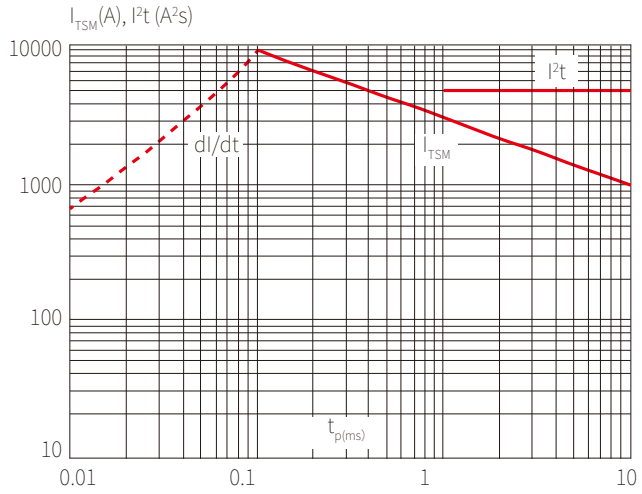
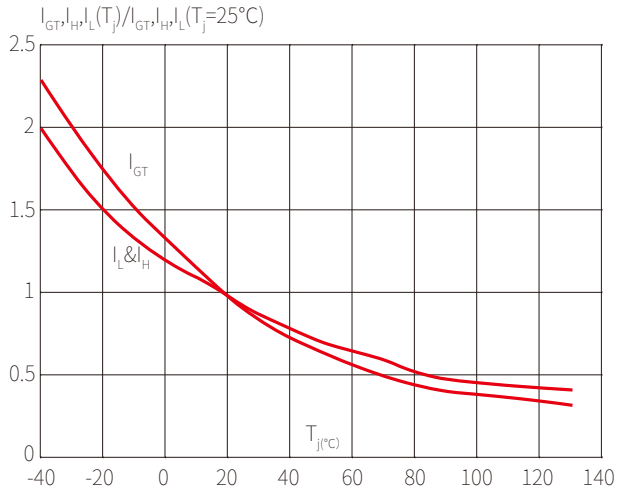


FIG.6 Relative variations of gate trigger current, holding current and latching current versus junction temperature



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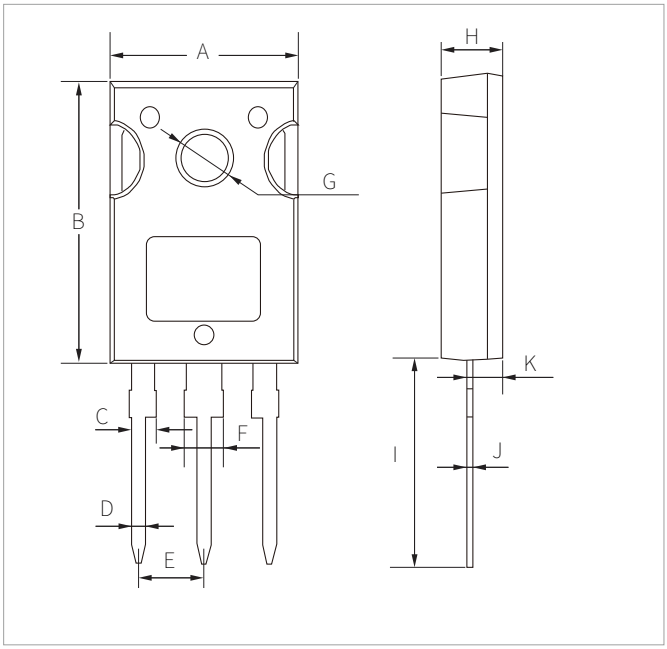

Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	15.4	15.8	0.606	0.662
B	19.5	20.5	0.767	0.807
C	1.8	2.2	0.070	0.087
D	1.15	1.25	0.045	0.050
E	5.2	5.7	0.204	0.225
F	2.8	3.2	0.110	0.126
G	3.4	3.8	0.133	0.149
H	4.8	5.0	0.188	0.204
I	14.0	14.5	0.550	0.570
J	0.4	0.7	0.015	0.029
K	2.4		0.095	

ORDERING INFORMATION

Part Number	Marking	Component Package	QTY/Tube	QTY/Box	QTY/Carton
SCG80C1600	SCG80C1600 XXXX	TO-247	30PCS	450PCS	2250PCS

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