

FEATURES

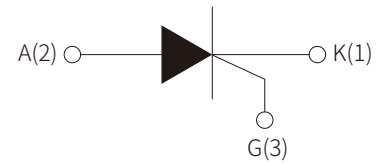
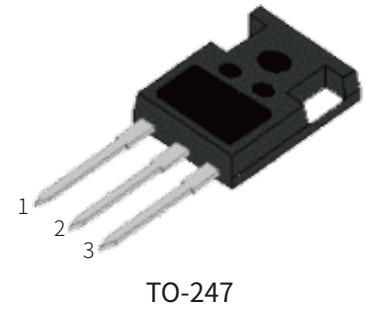
- | Glass-passivated mesa chip for reliability and uniform
- | High current output up to 55A

APPLICATIONS

- | Motor cycle
- | Power charger
- | T-tools etc

APPROVALS

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



Schematic Symbol

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Repetitive peak off-state voltage ($T_j=25^\circ\text{C}$)	V_{DRM}	800	V
Repetitive peak reverse voltage ($T_j=25^\circ\text{C}$)	V_{RRM}	800	
RMS on-state current ($T_c=70^\circ\text{C}$)	$I_{\text{T(RMS)}}$	55	A
Non repetitive surge peak on-state current ($t_p=10\text{ms}$)	I_{TSM}	700	
I ² t value for fusing ($t_p=10\text{ms}$)	I ² t	2450	A ² S
Critical rate of rise of on-state current ($I_G=2 \cdot I_{GT}$)	di/dt	200	A/ μs
Peak gate current	I_{GM}	10	A
Average gate power dissipation	$P_{\text{G(AV)}}$	1	W
Storage junction temperature range	T_{STG}	-40~+150	$^\circ\text{C}$
Operating junction temperature range	T_j	-40~+125	

ELECTRICAL CHARACTERISTICS ($T_j=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Test Condition	Value			Unit
		Min.	Typ.	Max.	
I_{GT}	$V_D=12\text{V}, R_L=33\Omega$	10	-	50	μA
V_{GT}		-	-	1	V
V_{GD}	$V_D=V_{DRM}, R_L=3.3\text{K}\Omega, T_j=125^{\circ}\text{C}$	0.2	-	-	
I_H	$I_T=500\text{mA}$	-	-	100	mA
I_L	$I_G=1.2I_{GT}$	-	-	120	
dV_D/dt	$V_D=540\text{V}$ Gate Open $T_j=125^{\circ}\text{C}$	1500	-	-	$\text{V}/\mu\text{s}$

STATIC CHARACTERISTICS

Symbol	Parameter		Value	Unit
V _{TM}	I _{TM} =80A,tp=380μs	T _j =25°C	≤1.5	V
I _{DRM}	V _D =V _{DRM} , V _R =V _{RRM}		≤9	uA
I _{RRM}		T _j =125°C	≤5	mA

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction to case(DC)	0.5	$^{\circ}\text{C}/\text{W}$

PARAMETER CHARACTERISTIC CURVE

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

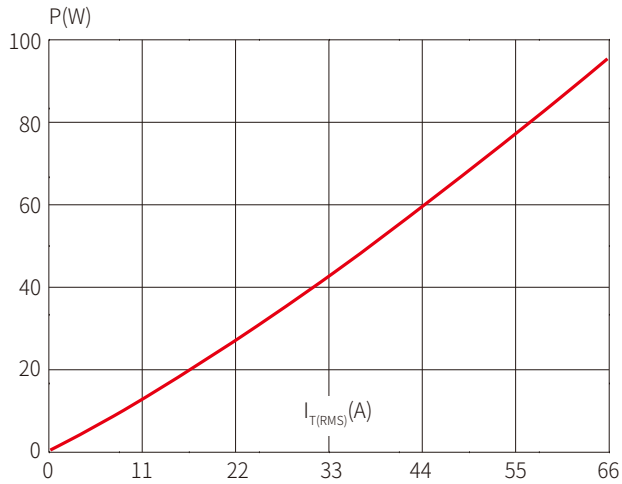


FIG.2: RMS on-state current versus case temperature

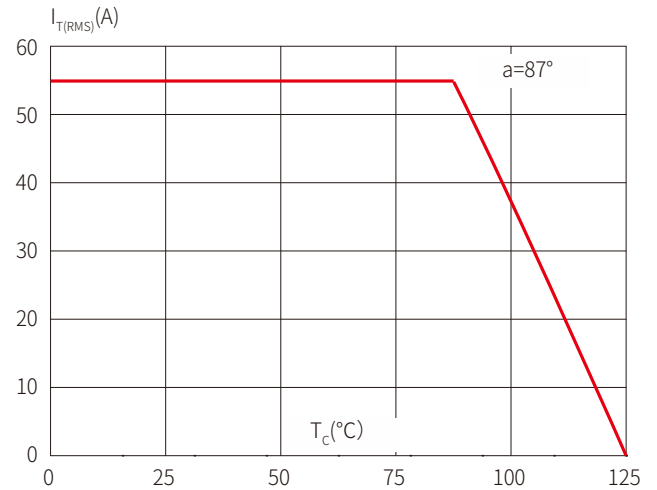


FIG.3: Surge peak on-state current versus number of cycles

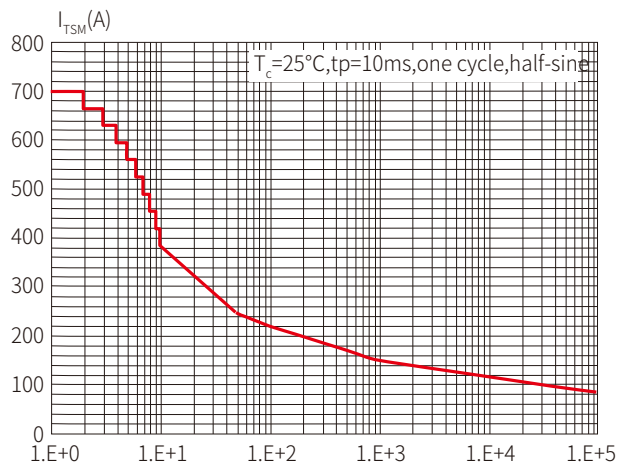


FIG.4 On-state characteristics

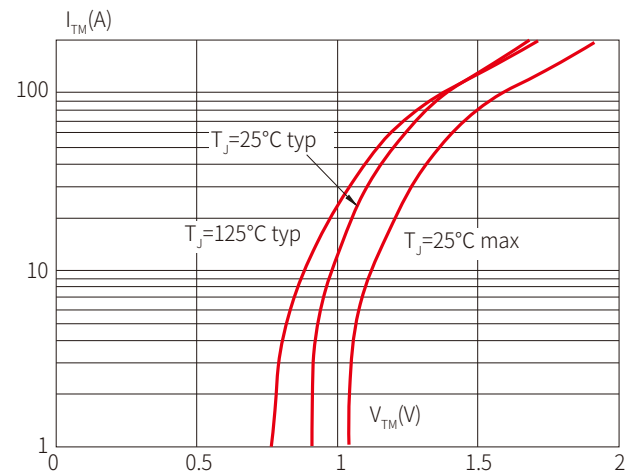


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$ and corresponding value of I^2t ($di/dt < 50\text{A}/\mu\text{s}$)

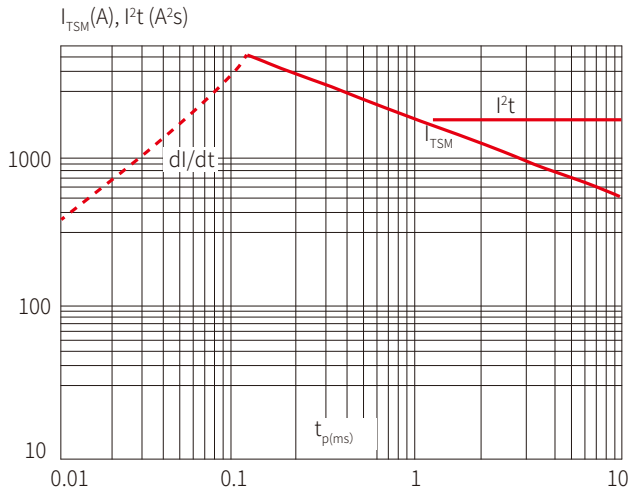
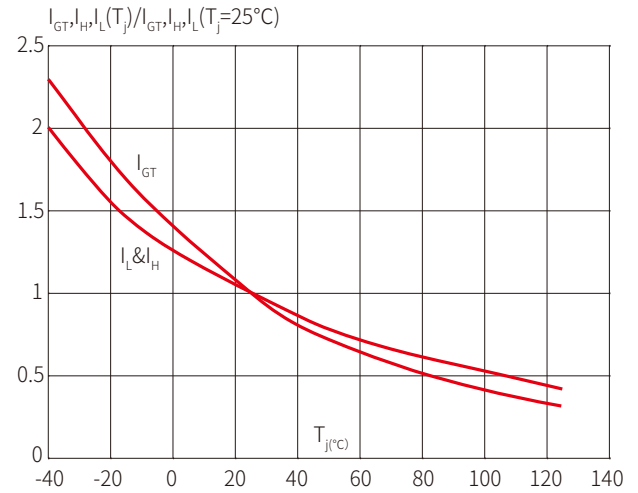
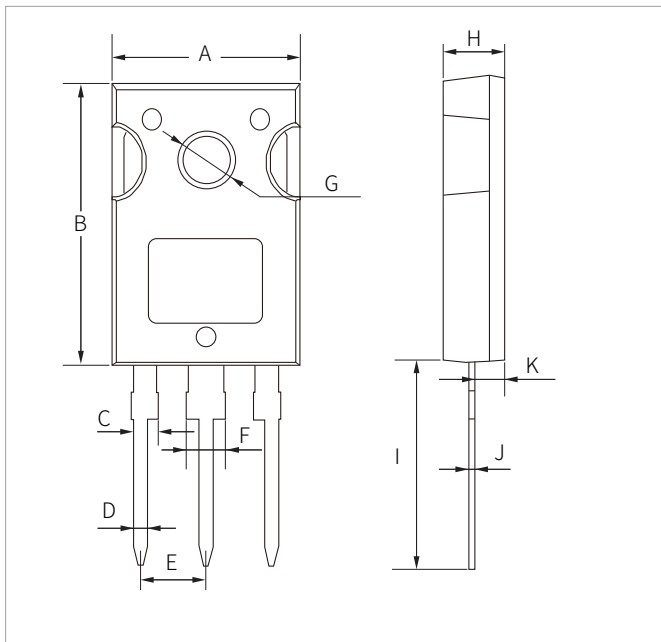


FIG.6 Relative variations of gate trigger current, holding current and latching current versus junction temperature



TO-247 PACKAGE INFORMATION



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	Component Package	QTY/Tube	QTY/Box	QTY/Carton
SCG55C80	TO-247	30PCS	450PCS	2250PCS

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By QR Code

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