

FEATURES

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

APPLICATIONS

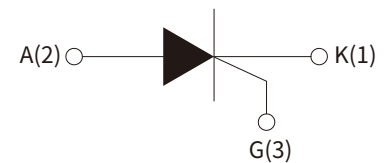
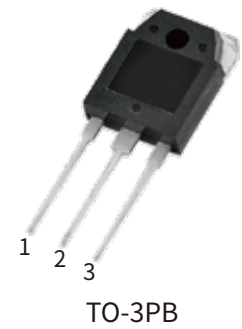
- | Motor cycle
- | Power charger
- | T-tools etc

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



Schematic Symbol

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	-	80	mA
V_{GT}		-	-	1.3	V
V_{GD}	$V_D=V_{DRM}, R_L=3.3\text{K}\Omega, T_j=150^{\circ}\text{C}$	0.25	-	-	
I_H	$I_T=500\text{mA}$	-	-	250	mA
I_L	$I_G=1.2I_{GT}$	-	-	200	
dV_D/dt	$V_D=1070\text{V}$ Gate Open $T_j=150^{\circ}\text{C}$	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	$^{\circ}\text{C/W}$

PARAMETER CHARACTERISTIC CURVE

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

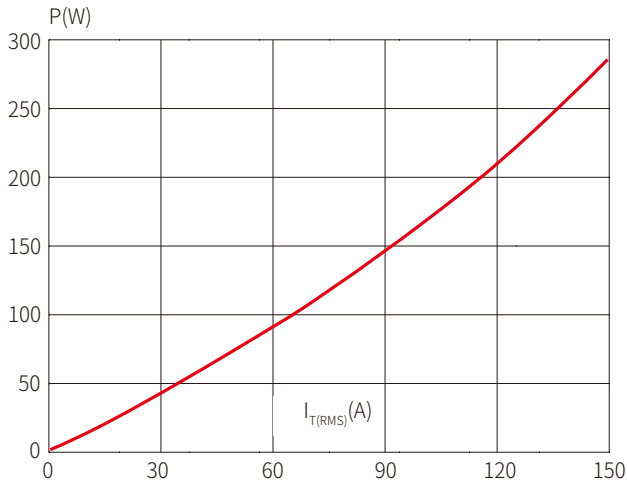


FIG.2: RMS on-state current versus case temperature

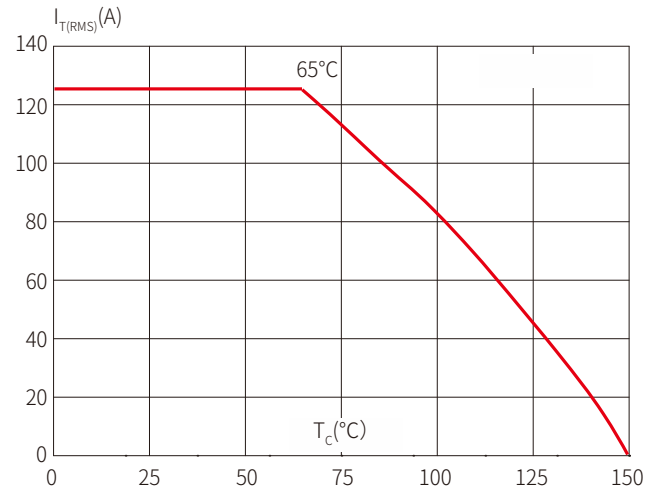


FIG.3: Surge peak on-state current versus number of cycles

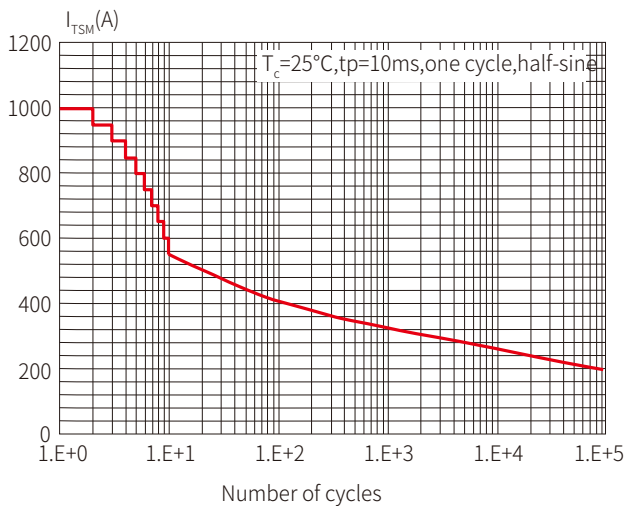


FIG.4 On-state characteristics

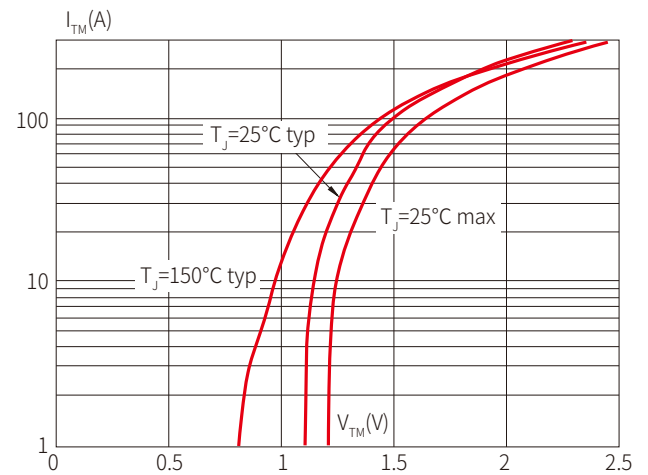


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$ and corresponding value of I^2t ($di/dt < 200\text{A}/\mu\text{s}$)

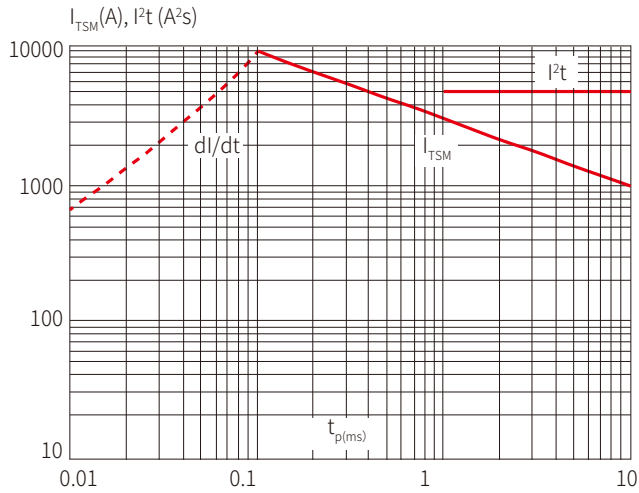
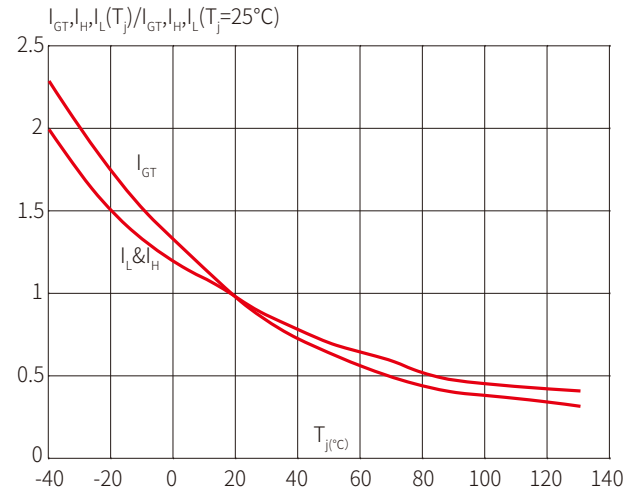
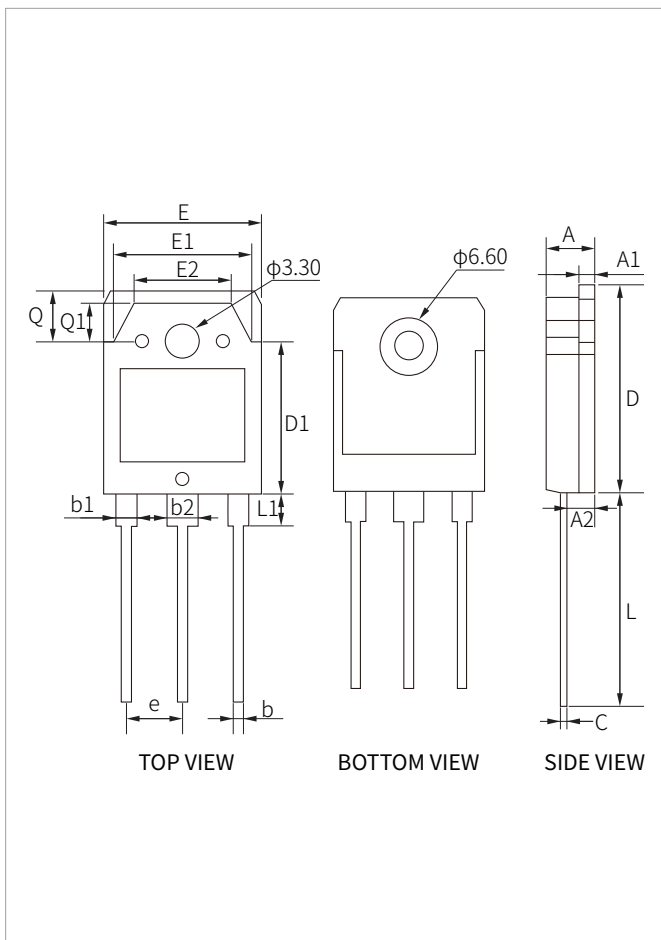


FIG.6 Relative variations of gate trigger current, holding current and latching current versus junction temperature



TO-3PB PACKAGE INFORMATION



Ref.	Millimeters		
	Min.	TYP.	Max.
A	4.60	4.80	5.00
A1	1.45	1.50	1.55
A2	2.60	2.80	3.00
b	0.80	1.00	1.20
b1	1.90	2.10	2.30
b2	2.90	3.10	3.30
C	0.55	0.60	0.75
D	19.90	20.10	20.30
D1	-	14.30	-
E	15.40	15.65	15.80
E1	-	13.60	-
E2	-	9.60	-
e	5.40	5.45	5.50
L	20.00	20.50	21.00
L1	-	3.20	-
Q	-	5.00	-
Q1	-	3.80	-

ORDERING INFORMATION

Part Number	Component Package	Marking	QTY/Tube	QTY/Box	QTY/Carton
SCP80C160	TO-3PB	 SCP80C160 XXXX	25PCS	250PCS	1250PCS

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