

FEATURES

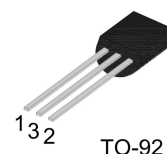
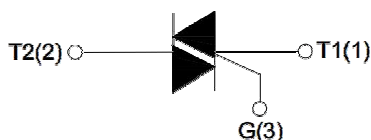
- Glass Passivated Junctions
- High voltage and surge capability
- Low Thermal Resistance and Durability
- Triggering in three quadrants

APPLICATIONS

- Static relays
- Heating regulation
- In-duction motor starting circuits
- Phase control operation in light dimmers
- Motor speed controllers

Parameters Summary

VD/VR:800V IT(RMS):2A IGT :10mA



ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Storage junctiontemperature range		Tstg	-40~150	°C
Operating junction temperature range		Tj	-40~150	°C
Repetitive peak off-state voltage (T =25°C)		V _{DRM}	800	V
Repetitive peak reverse voltage (T =25°C)		V _{RRM}	800	V
RMS on-state current	TO-92 (T =90°C)	I _{T(RMS)}	2	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)		I _{TSM}	20	A
I ² t value for fusing (tp=10ms)		I ² t	2	A ² S
Critical rate of rise of on-state current(I =2×I _{GT})		di/dt	50	A/μS
Peak gate current		I _{GM}	2	A
Average gate power dissipation		P _{G(AV)}	0.5	W

Thermal Resistances

Symbol	Parameter		Value	Unit
Rth(j-c)	Junction to case (AC)	TO-92	15	°C/W

Marking: F2C80 xxx

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

Symbol	Test Condition	Quadrant		Value	Unit
I_{GT}	$V_D=12V, I_T=0.1A,$ $T_j=25^\circ C$	I II III	MAX.	10	mA
V_{GT}		I II III	MAX.	1.3	V
V_{GD}	$V_D=V_{DRM} T_j=125^\circ C$	I II III	MIN.	0.2	V
I_L	$I_G=1.2I_{GT}$	I-III	MAX.	25	mA
		II		35	
I_H	$I_T=100mA$		MAX.	15	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ C$		MIN.	600	V/ μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM}=2.8A$ $t_p=380\mu s$	$T_j=25^\circ C$	1.55	V
I_{DRM}	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25^\circ C$	10	μA
I_{RRM}		$T_j=125^\circ C$	1.0	mA

FIG.1 Maximum power dissipation on-state current

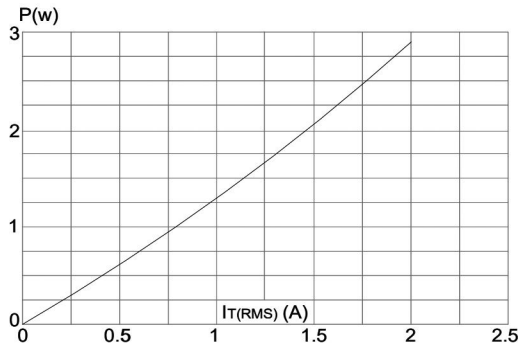


FIG.2: on-state current versus versus case temperature

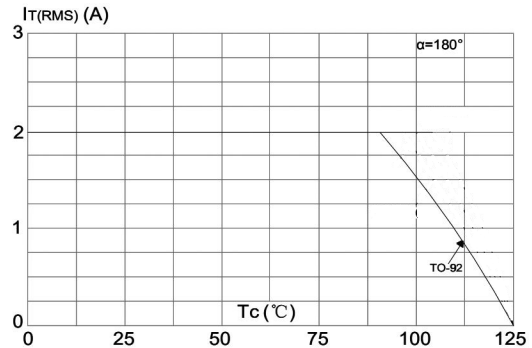


FIG.3: Surge peak on-state current number of cycles

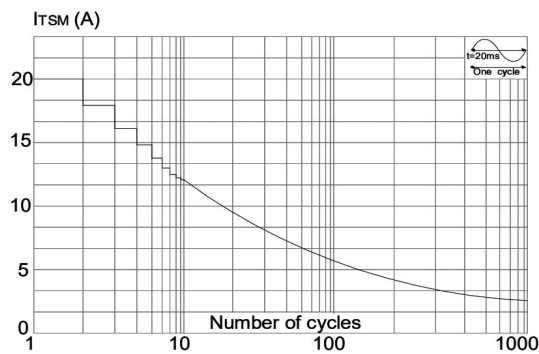


FIG.4: On-state characteristics versus (maximum values)

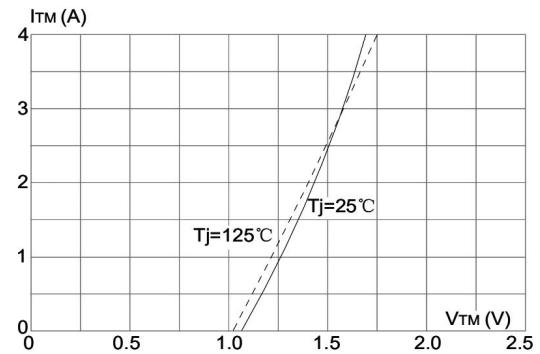


FIG.5: Non-repetitive surge peak on-state sinusoidal pulse with width and corresponding value of I^2t ($dI/dt < 50A/\mu s$)

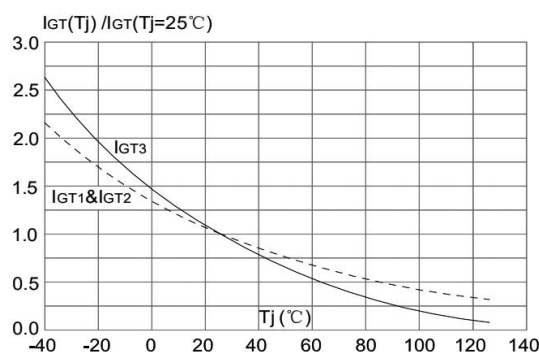
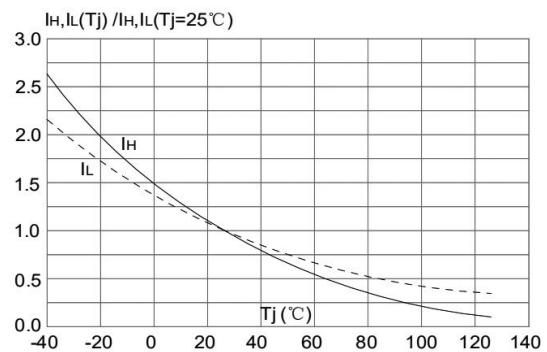
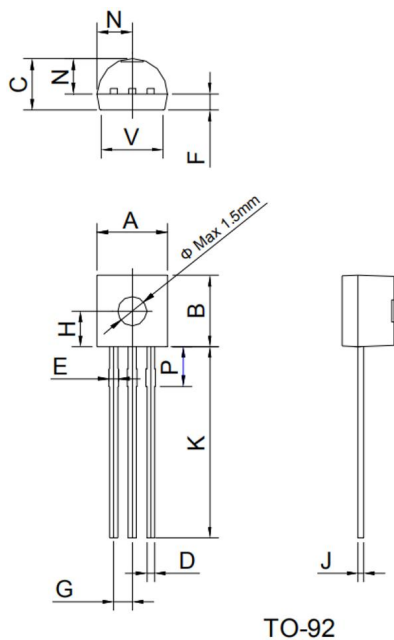


FIG.6: Relative variations of gate current for a trigger current holding current and $t_p < 10ms$, latching current versus junction temperature



TO-92 Package Mechanical Data



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.45		5.20	0.175		0.205
B	4.32		5.33	0.170		0.210
C	3.18		4.19	0.125		0.165
D	0.41		0.51	0.016		0.020
E	0.30		0.70	0.024		0.031
F	-	1.30	-	-	0.051	-
G	-	1.27	-	-	0.050	-
H	-	2.30	-	-	0.091	-
J	0.30		0.50	0.011		0.020
K	12.70		15.0	0.500		0.591
N	2.04		2.66	0.080		0.105
P	1.86		2.06	0.073		0.081
V	-		4.50	-		0.177