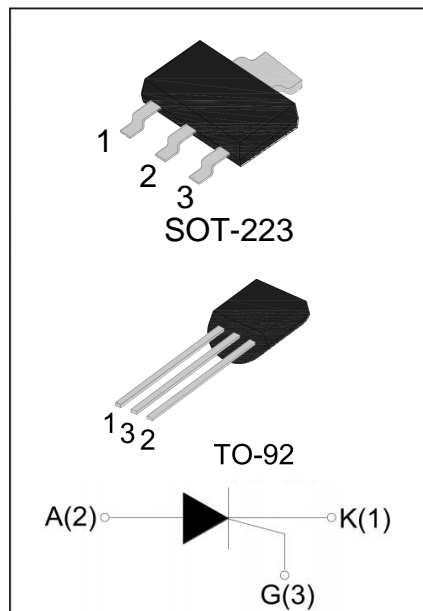


MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	1	A
V_{DRM}/V_{RRM}	800	V
IGT	100	μA



ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	$^{\circ}C$
Operating junction temperature range	T_j	-40-110	$^{\circ}C$
Repetitive peak off-state voltage	V_{drm}	800	V
Repetitive peak reverse voltage	V_{rrm}	800	V
RMS on-state current	TO-92 ($T_c=60^{\circ}C$)	1	A
	SOT-223 ($T_c=72^{\circ}C$)		
Non repetitive surge peak on-state current ($t_p=10ms$)	I_{tsm}	12	A
I^2t value for fusing ($t_p=10ms$)	I^2t	0.72	A^2s
Critical rate of rise of on-state current	di/dt	50	A/ps
Peak gate current ($t_p=20ps, T_j=110^{\circ}C$)	I_{gm}	0.5	A
Peak gate power ($t_p=20ps, T_j=110^{\circ}C$)	P_{gm}	0.5	W
Average gate power dissipation($T_j=110^{\circ}C$)	$P_g (av)$	0.1	W

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

Symbol	Test Condition	Value	Unit
		MAX.	
I_{GT}	$V = 12V$ $R = 33\Omega$	100	μA
V_{GT}		0.8	V
V_{GD}	$V_D = V_{DRM}$ $T_j = 110^{\circ}\text{C}$	0.2	V
I_L	$I_G = 1.2I_{GT}$	5	mA
I_H	$I_T = 0.05A$	4	mA
dV/dt	$V_D = 2/3V_{DRM}$ $T_j = 110^{\circ}\text{C}$ $R_{GK} = 1K\Omega$	50	V/ μs

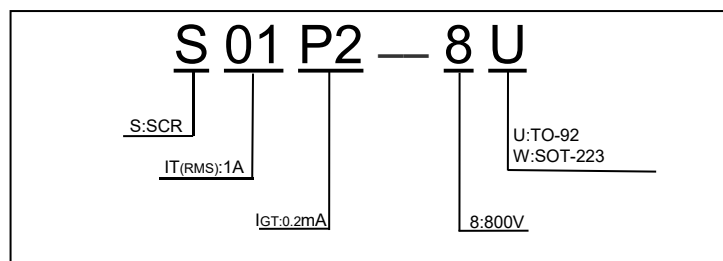
STATIC CHARACTERISTICS

Symbol	Parameter		Value	Unit
V_{TM}	$I_T = 2A$, $t_p = 380\mu\text{s}$	$T_j = 25^{\circ}\text{C}$	1.7	V
I_{DRM}	$V_D = V_{DRM}$, $V_R = V_{RRM}$	$T_j = 25^{\circ}\text{C}$	5	μA
I_{RRM}		$T_j = 110^{\circ}\text{C}$	100	μA

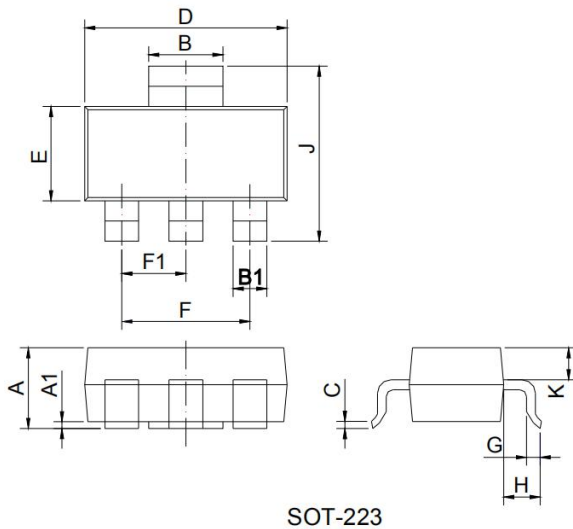
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case	TO-92	60	$^{\circ}\text{C}/\text{W}$
		SOT-223	25	
	junction to tab	SOT-89	28	

ORDERING INFORMATION

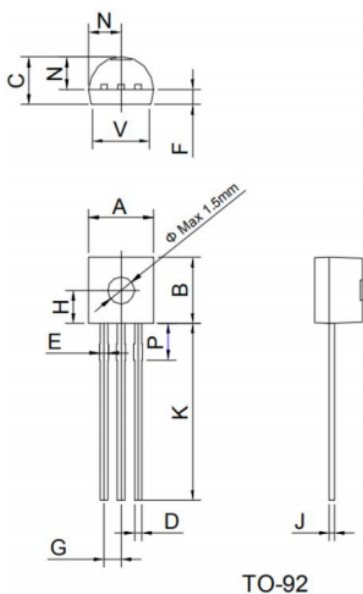


TO-223 PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.5	1.6	1.8	0.059	0.063	0.071
A1	0	0.06	0.10	0	0.002	0.004
B	2.9	3.0	3.1	0.114	0.118	0.122
B1	0.6	0.7	0.8	0.024	0.028	0.031
C	0.22	0.26	0.32	0.009	0.010	0.013
D	6.3	6.5	0.67	0.248	0.256	0.264
E	3.3	3.5	3.7	0.130	0.138	0.146
F		4.6			0.181	
F1		2.3			0.091	
G	0.7	0.9	1.1	0.028	0.035	0.043
H	1.5	1.75	2.0	0.059	0.069	0.079
J	6.7	7.0	7.3	0.264	0.276	0.287
K	0.8	0.9	1.0	0.031	0.035	0.039

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	0.254		0.506	0.016		0.021
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	-		0.169

FIG.1:Maximum power dissipation versus RMS on-state current(full cycle)

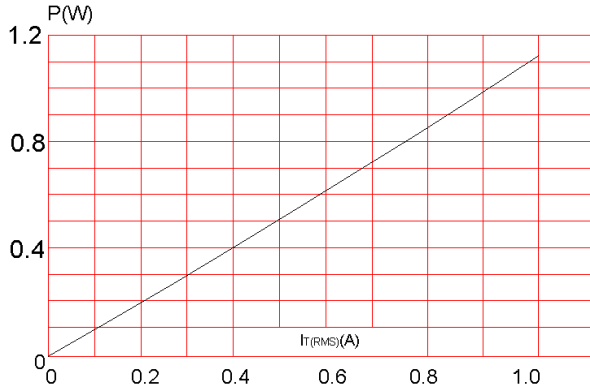


FIG.2:RMS on-state current versus mounting base temperature(full cycle)

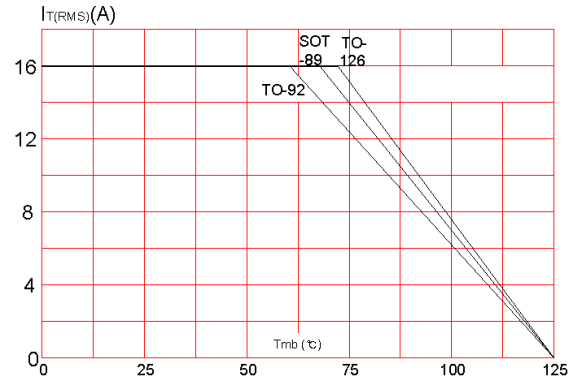


FIG.3:On-state characteristics (maximum values).

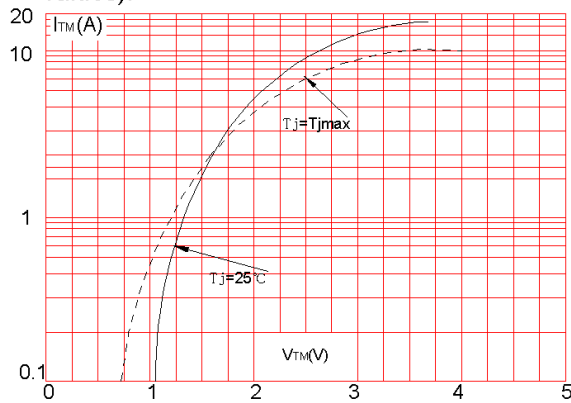


FIG.4:Surge peak on-state current versus number of cycles.

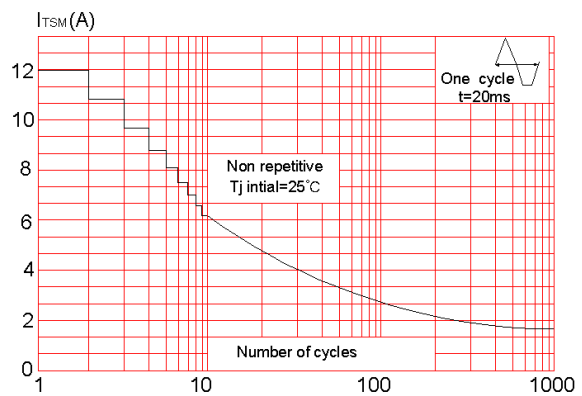


FIG.5:Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms, and corresponding value of I²t.

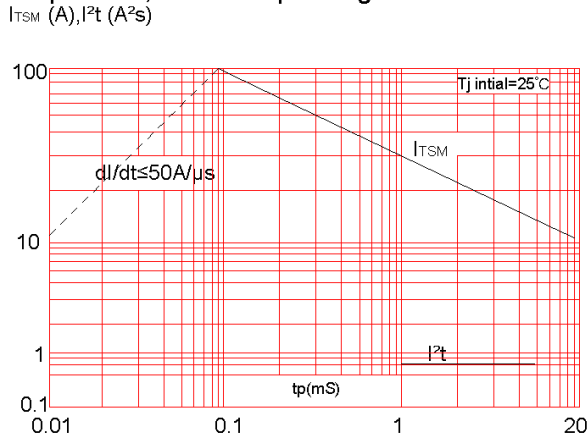


FIG.6:Relative variations of gate trigger current,holding current and latching current versus junction temperature(typical values)

