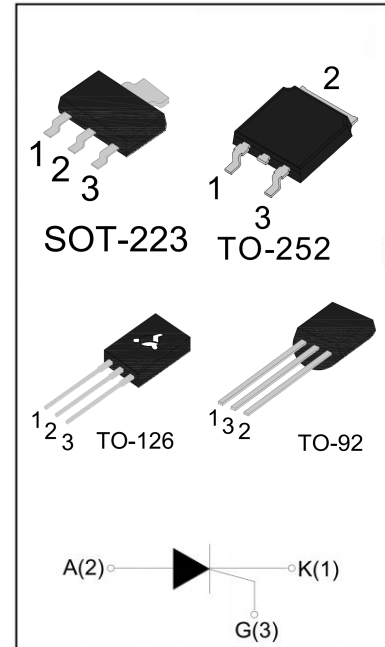


MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	2	A
V_{DRM}/V_{RRM}	800	V
I_{GT}	200	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-223 $T_c = 100^{\circ}C$ TO-252 $T_c = 80^{\circ}C$ TO-92 $T_c = 60^{\circ}C$ TO-126 $T_c = 80^{\circ}C$	$I_{T(RMS)}$	2	A
Non repetitive surge peak on-state current (tp=10ms)		I_{TSM}	20	A
I^2t value for fusing (tp=10ms)		I^2t	2	A^2s
Critical rate of rise of on-state current		di/dt	50	$A/\mu s$
Peak gate current (tp=20 μs , $T_j=110^{\circ}C$)		I_{GM}	0.2	A
Peak gate power (tp=20 μs , $T_j=110^{\circ}C$)		P_{GM}	0.5	W
		$P_{G(AV)}$	0.1	W

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

Symbol	Test Condition	Value	Unit
		MAX.	
I_{GT}	$V_D=12\text{V } R_L=33\Omega$	200	μA
V_{GT}		10.8	V
V_{GD}	$V_D=V_{DRM} \quad T_j=110^{\circ}\text{C}$	-	V
I_L	$I_G=1.2I_{GT}$	6	mA
I_H	$I_T=0.05\text{A}$	5	V/ μs
dV/dt	$V_D=2/3V_{DRM}, \quad T_j=125^{\circ}\text{C} \quad R_{GK}=1\text{K}\Omega$	-	mA

STATIC CHARACTERISTICS

Symbol	Parameter		Value	Unit
V_{TM}	$I_T = 4\text{A}, t_p = 380\mu\text{s}$	$T_j=25^{\circ}\text{C}$	1.5	V
I_{DRM}	$V_D = V_{DRM} \quad V_R = V_{RRM}$	$T_j=25^{\circ}\text{C}$	5	μA
I_{RRM}		$T_j=110^{\circ}\text{C}$	100	μA

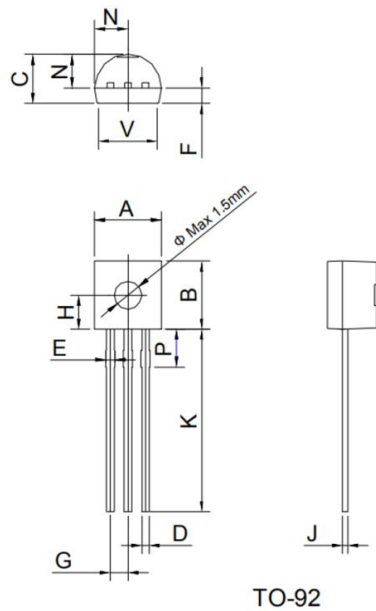
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case	TO-92	40	$^{\circ}\text{C/W}$
		TO-126	7.0	
		TO-252	6.5	
	junction to tab	SOT-223	20	

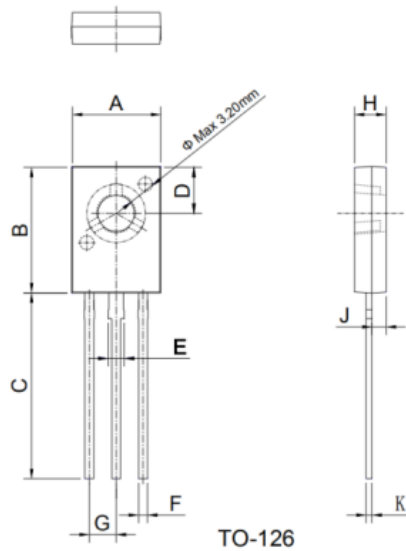
ORDERING INFORMATION

S 02 P2 — 8 U	
SCR	Q:TO-126 U:TO-92 D:TO-252 W:SOT-223
$I_{T(RMS)}:2\text{A}$	8:800V
$I_{GT}:0.2\text{mA}$	

PACKAGE MECHANICAL DATA

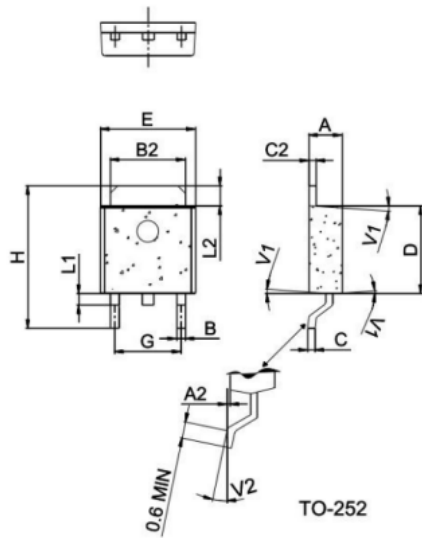


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.45		5.20	0.175		0.205
B	4.32		5.33	0.170		0.210
C	3.18		4.19	0.125		0.165
D	0.254		0.506	0.016		0.021
E	0.30		0.70	0.024		0.031
F	-	1.30	-	-	0.051	-
G	-	1.27	-	-	0.050	-
H	-	2.30	-	-	0.091	-
J	0.30		0.50	0.011		0.020
K	12.70		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

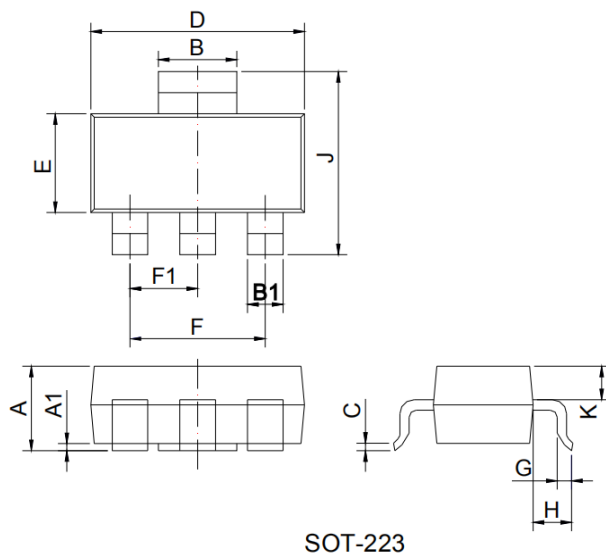


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	7.43		8.23	0.292		0.324
B	10.07		11.27	0.396		0.443
C	15.4		17.4	0.606		0.685
D	0.80		4.20	0.149		0.165
E	1.17		1.47	0.046		0.058
F	0.48		0.88	0.018		0.034
G		2.29			0.090	
H	2.50		2.90	0.098		0.114
J	1.10		1.50	0.043		0.059
K	0.45		0.60	0.018		0.024

PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.095
A2	0.03		0.23	0.001		0.009
B	0.55		0.65	0.022		0.026
B2	5.10		5.40	0.200		0.213
C	0.45		0.62	0.018		0.024
C2	0.71		0.99	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.70	0.252		0.264
G	4.40		4.70	0.173		0.185
H	9.35		10.60	0.368		0.417
L1	1.30		1.70	0.051		0.067
L2	1.37		1.50	0.054		0.059
V1		4°				
V2	0°		8°	0°		8°



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.5	1.6	1.8	0.059	0.063	0.071
A1	0.01	0.06	0.10	0.001	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	6.7	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	0.059	0.069	0.079
J	6.7	7.0	7.3	0.264	0.276	0.287
K		0.9			0.035	

PACKAGE MECHANICAL DATA

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

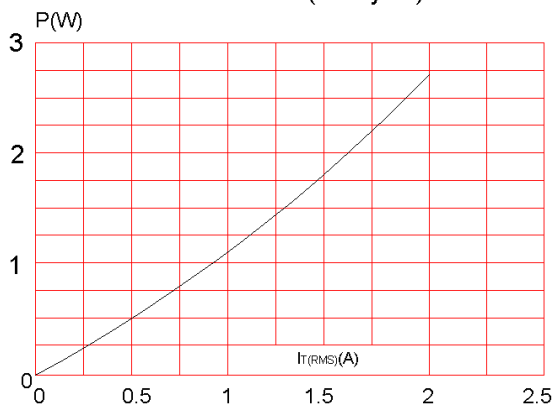


FIG.2:RMS on-state current versus mounting base temperature(full cycle)

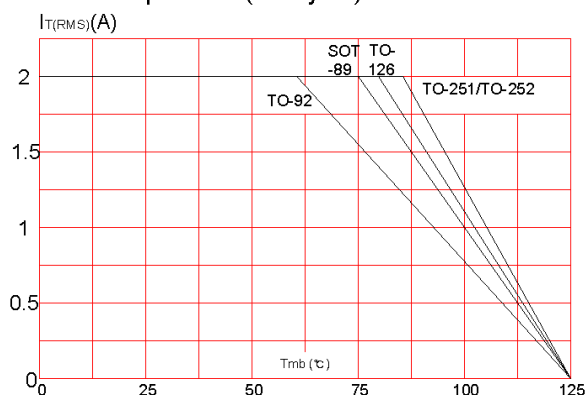


FIG.3:On-state characteristics (maximum values).

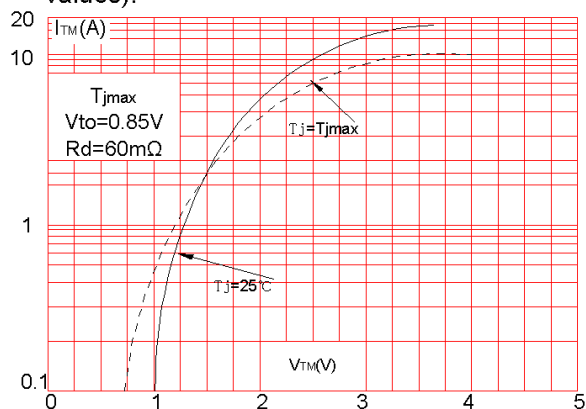


FIG.4:Surge peak on-state current versus number of cycles.

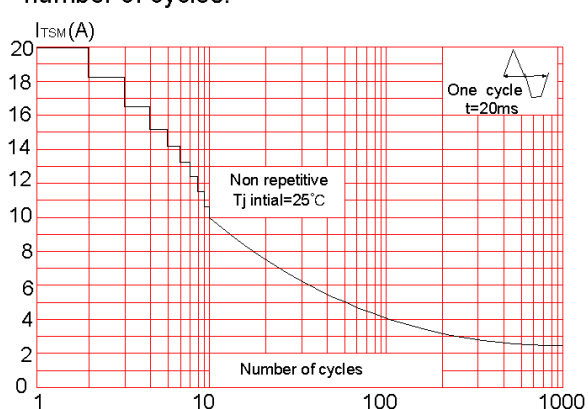
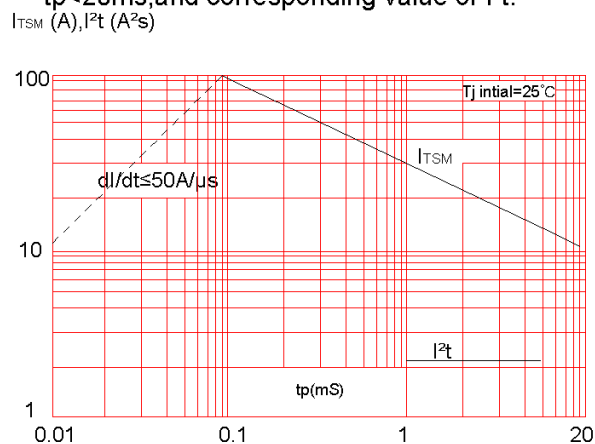
FIG.5:Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20ms$, and corresponding value of I^2t .

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

