

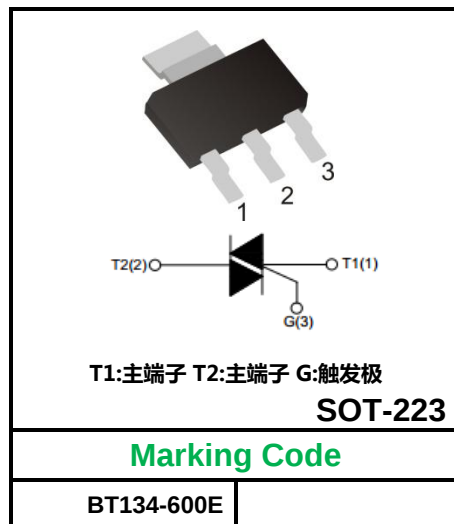
4A四象限双向可控硅

●产品特征：

NPNPN 五层结构的硅双向器件；
P型对通扩散隔离；
台面玻璃纯化工艺；
背面多层金属电极；
符合Rohs规范.....

●应用：

加热控制器、马达调速控制器、麻将机、搅拌机、直发器、面包机等家用电器等...



●主要参数：

符号	参数	数值	单位
$I_{T(RMS)}$	通态有效值电流	4	A
V_{DRM}/V_{RRM}	断态重复峰值电压	600/800	V
V_{TM}	导通压降	1.55	V

●极限参数 ($T_{CASE}=25^{\circ}C$)：

符号	参数	条件	数值		单位
$V_{\text{DRM}}/V_{\text{RRM}}$	断态重复峰值电压	$T_j=25^{\circ}\text{C}$	600/800		V
$I_{\text{T(RMS)}}$	通态均方根电流	SOT-223- ($T_c\leq 70^{\circ}\text{C}$),Fig,1,2	4		A
I_{TSM}	通态不重复浪涌电流	全正弦波， $T_j(\text{init})=25^{\circ}\text{C}$, $t_p=20\text{ms}$;Fig3,5	25		A
I^2t	I^2t 值	正弦波脉冲， $t_p=10\text{ms}$	3.1		A^2S
di_T/dt	通态电流临界上升率	$I_G=2*I_{GT}$, $t_r\leq 10\text{ns}$, $F=120\text{Hz}$, $T_j=125^{\circ}\text{C}$	I - II -III	50	A/us
			IV	10	
I_{GM}	门极峰值电流	$t_P=20\mu\text{s}$, $T_j=125^{\circ}\text{C}$	2		A
P_{GM}	门极峰值功率	$t_P=20\mu\text{s}$, $T_j=125^{\circ}\text{C}$	5		W
$P_{\text{G(AV)}}$	门极平均功率	$T_j=125^{\circ}\text{C}$	0.5		W
T_{STG}	存储温度		-40~+150		$^{\circ}\text{C}$
T_j	工作结温		-40~+125		

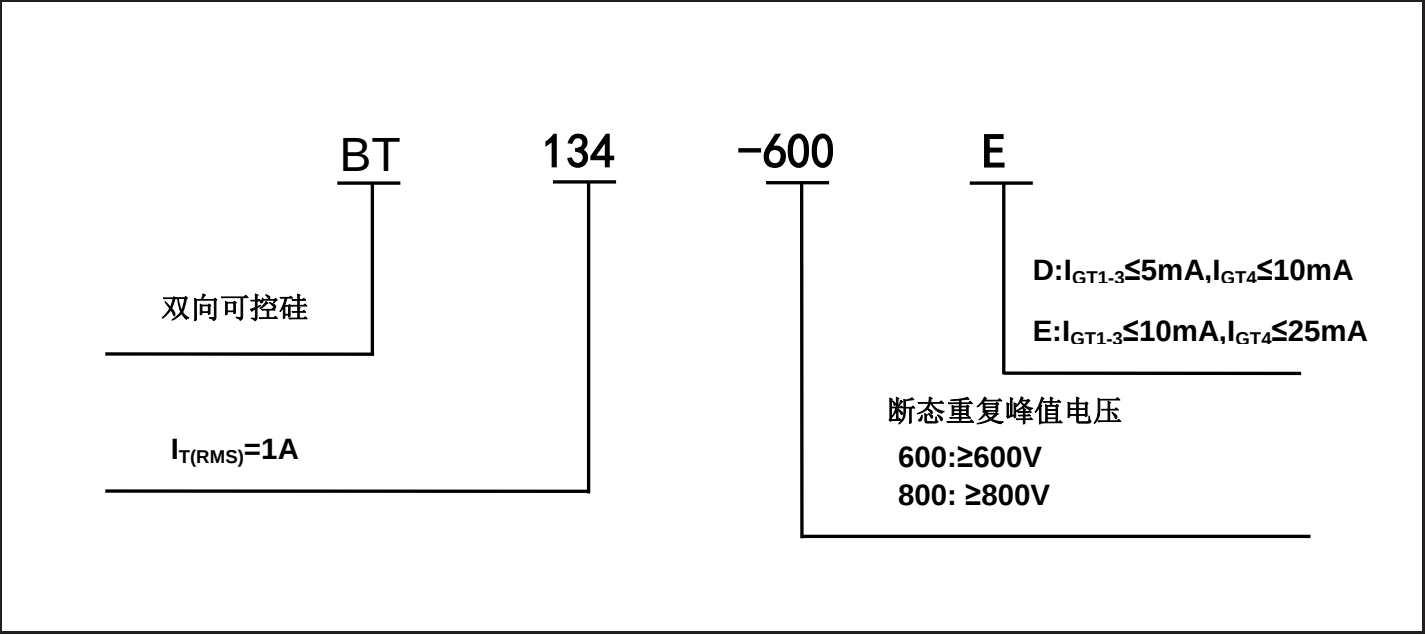
●产品电性能

符号	参数	测试条件		数值		单位
				D	E	
I _{GT}	门极触发电流	V _D =12V, I _T =0.1A, T _j =25℃, Fig.6	I - II -III	≤5	≤10	mA
			IV	≤10	≤25	
V _{GT}	门极触发电压			I - II -III-IV	≤1.3	
V _{GD}	门极不触发电压	V _D =V _{DRM} , T _j =125℃		≥0.2		V
I _H	维持电流	V _D =12V, I _{GT} =0.1A, T _j =25℃, Fig.6	I - II -III-IV	≤10	≤15	mA
I _L	擎住电流		I - III-IV	≤10	≤15	mA
			II	≤15	≤20	mA
dV _D /dt	断态电压临界上升率	V _D =67%V _{DRM} , 门极开路 T _j =125℃		≥10	≥20	V/us
V _{TM}	通态压降	I _{TM} =6A, tp=380us, Fig.4		≤1.55		V
I _{DRM} / I _{RRM}	断态重复峰值电流	V _D =V _{DRM} /V _{RRM} , T _j =25℃		≤5	≤5	uA
		V _D =V _{DRM} /V _{RRM} , T _j =125℃		≤0.5	≤0.5	mA

●热阻参数：

符号	参数		数值	单位	
Rth(j-c)	结到管壳的热阻（AC）		SOT-223	23	℃/W
Rth(j-a)	结到环境的热阻	S=5cm ²	SOT-223	60	℃/W

●产品标识：



●参数特性曲线图：

FIG.1 最大功耗与均方根电流关系曲线图

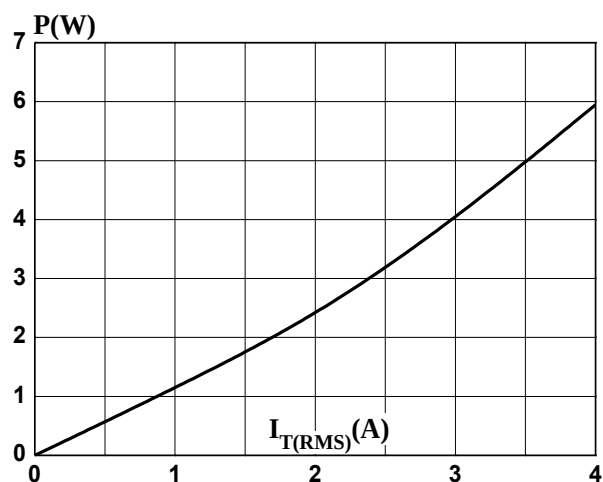


FIG.2: RMS current vs. case temperature. A graph showing $I_{T(RMS)}(A)$ on the y-axis (0 to 5) and $T_c(^{\circ}C)$ on the x-axis (-50 to 150). The current is constant at 4A until 75°C, then decreases linearly to 0A at 125°C.

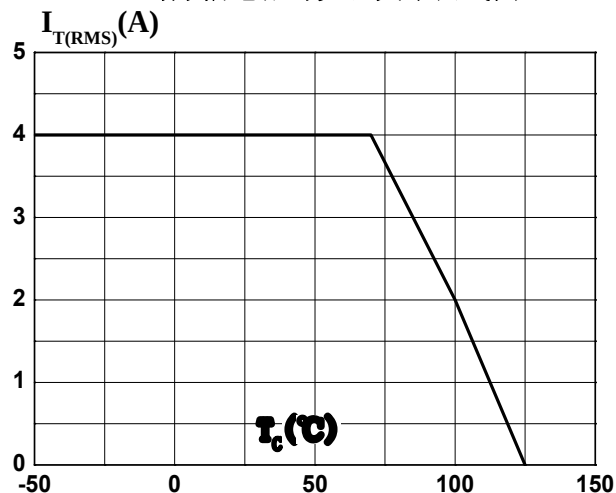


FIG.3: Peak surge current vs. number of cycles. A graph showing $I_{TSM}(A)$ on the y-axis (0 to 30) and Number of cycles on the x-axis (1 to 1000). The current starts at 25A for 1 cycle and decreases as the number of cycles increases.

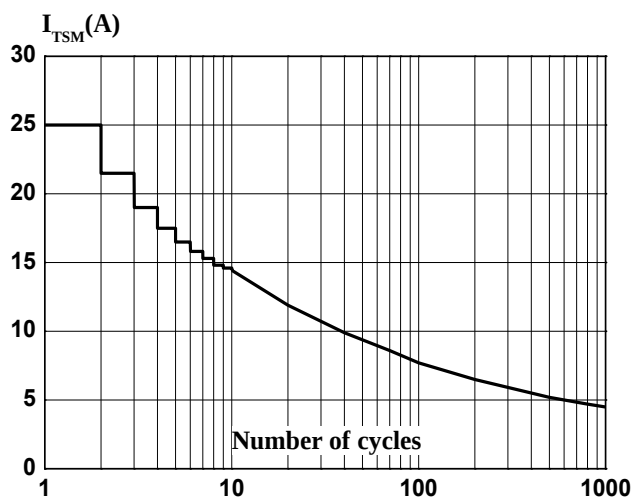


FIG.4: Output characteristic graph (maximum value). A graph showing $I_{TM}(A)$ on the y-axis (0 to 16) and $V_{TM}(V)$ on the x-axis (0.5 to 3.0). Two curves are shown for $T_j=25^{\circ}C$ (black) and $T_j=125^{\circ}C$ (red).

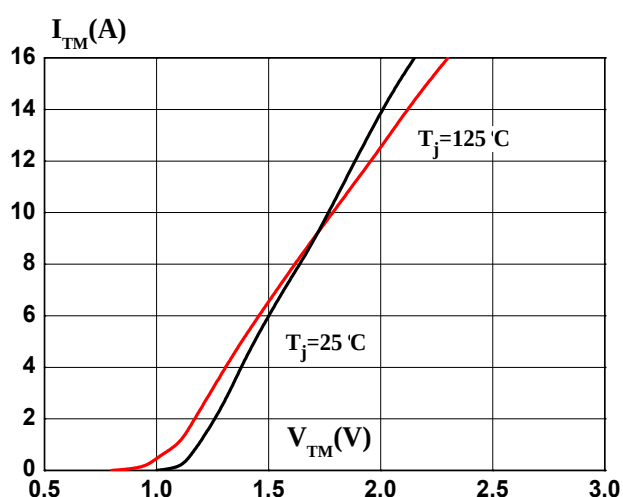


FIG.5: Non-repeating peak surge current vs. sine wave pulse width relationship curve. A graph showing $I_{TSM}(A)$ on the y-axis (10 to 1000) and $tp(ms)$ on the x-axis (0.01 to 10). The current peaks at approximately 300A for $tp=0.05ms$ and then decreases.

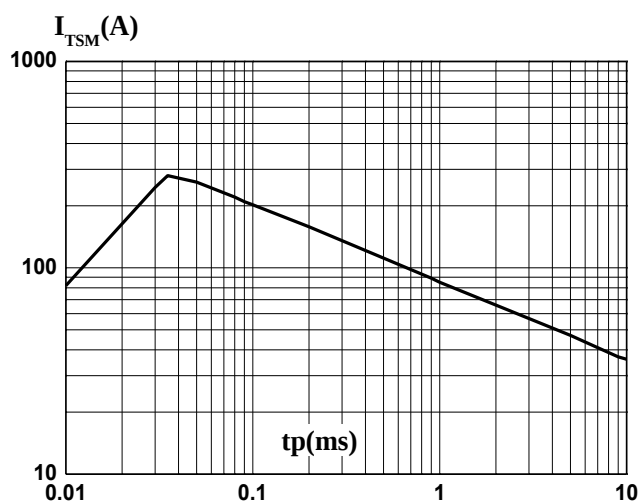
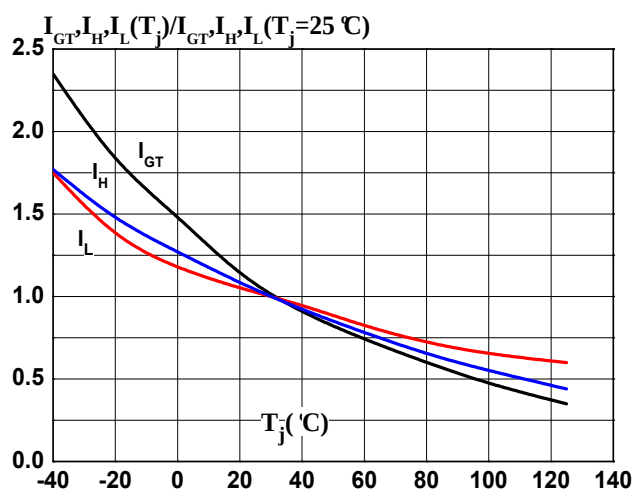
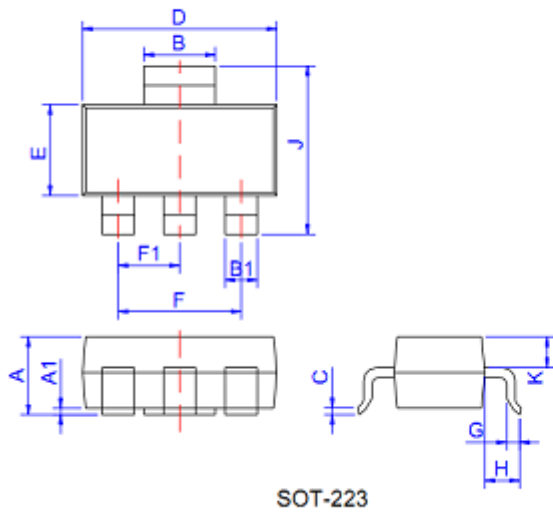


FIG.6: Gate trigger current, holding current, latching current vs. junction temperature relationship curve. A graph showing $I_{GT}, I_H, I_L(T_j)/I_{GT}, I_H, I_L(T_j=25^{\circ}C)$ on the y-axis (0.0 to 2.5) and $T_j(^{\circ}C)$ on the x-axis (-40 to 140). Three curves are shown for I_{GT} (black), I_H (blue), and I_L (red).



●封装外形：

SOT-223



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	