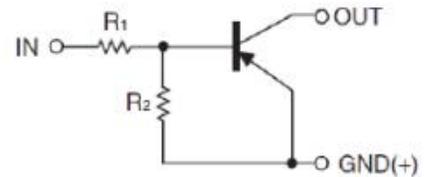


SOT-23 Digital Transistor 数字晶体管

■ Features 特点

1.IN 2.GND 3.OUT
PNP With Bias Resistor Network
带偏置电阻



■ Absolute Maximum Ratings 最大额定值

Characteristic 特性参数	Symbol 符号	Rat 额定值	Unit 单位
Supply Voltage 电源电压	V_{CC}	-50	V
Input Voltage 输入电压	V_{IN}	-10~+10	V
Output Current 输出电流	I_O	-500	mA
Power dissipation 耗散功率	$P_C(T_a=25^\circ\text{C})$	200	mW
Thermal Resistance Junction-Ambient 热阻	$R_{\theta JA}$	625	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature 结温和储藏温度	T_J, T_{stg}	-55to+150 $^\circ\text{C}$	

■ Device Marking 产品打标

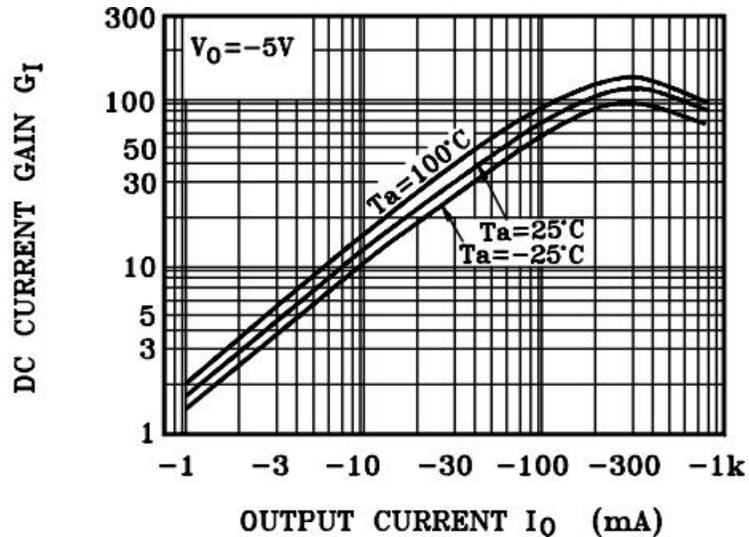
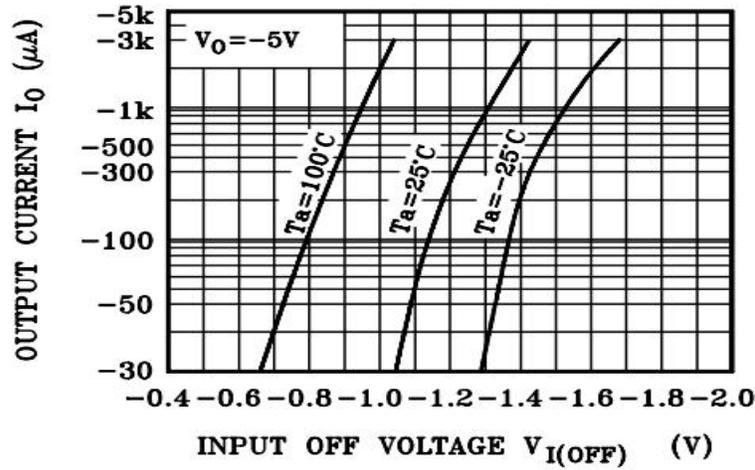
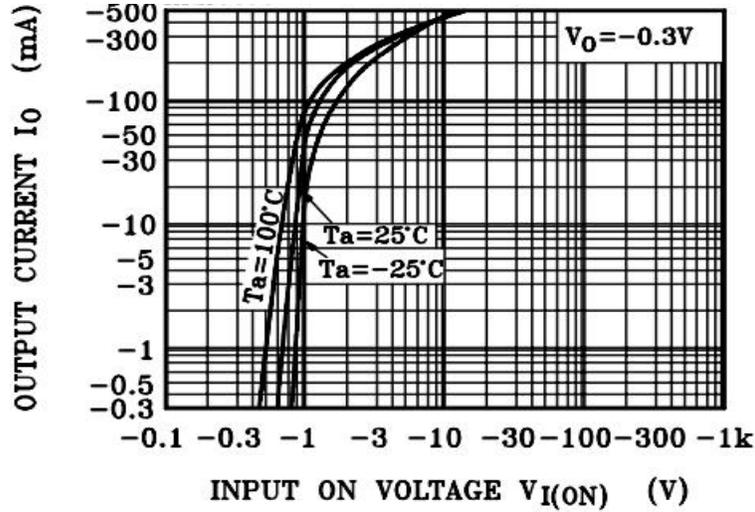
KRA221S=PQ

■ Electrical Characteristics 电特性

($T_A=25^{\circ}\text{C}$ unless otherwise noted 如无特殊说明, 温度为 25°C)

Characteristic 特性参数	Symbol 符号	Min 最小值	Type 典型值	Max 最大值	Unit 单位
Input Voltage 输入电压 ($V_{CC} = -5\text{V}$, $I_O = -100\mu\text{A}$)	$V_{I(\text{off})}$	—	—	-0.5	V
Input Voltage 输入电压 ($V_O = -0.3\text{V}$, $I_O = -20\text{mA}$)	$V_{I(\text{on})}$	-3	—	—	V
Output Voltage 输出电压 ($I_O/I_I = -50\text{mA}/-2.5\text{mA}$)	$V_{O(\text{on})}$	—	-0.1	-0.3	V
Input Current 输入电流 ($V_I = -5\text{V}$)	I_I	—	—	-7.2	mA
Output Current 输出电流 ($V_{CC} = -30\text{V}$, $V_I = 0$)	$I_{O(\text{off})}$	—	—	-10	μA
DC Current Gain 直流电流增益 ($V_O = -5\text{V}$, $I_O = -50\text{mA}$)	G_I	33	—	—	
Input Resistor 输入电阻	R1	1.5	2.2	2.9	$\text{K}\Omega$
Resistor Ratio 电阻比率	R2/R1	0.8	1	1.2	
Transition frequency 特征频率 ($V_O = -10\text{V}$, $I_O = -5\text{mA}$)	f_T	—	250	—	MHz

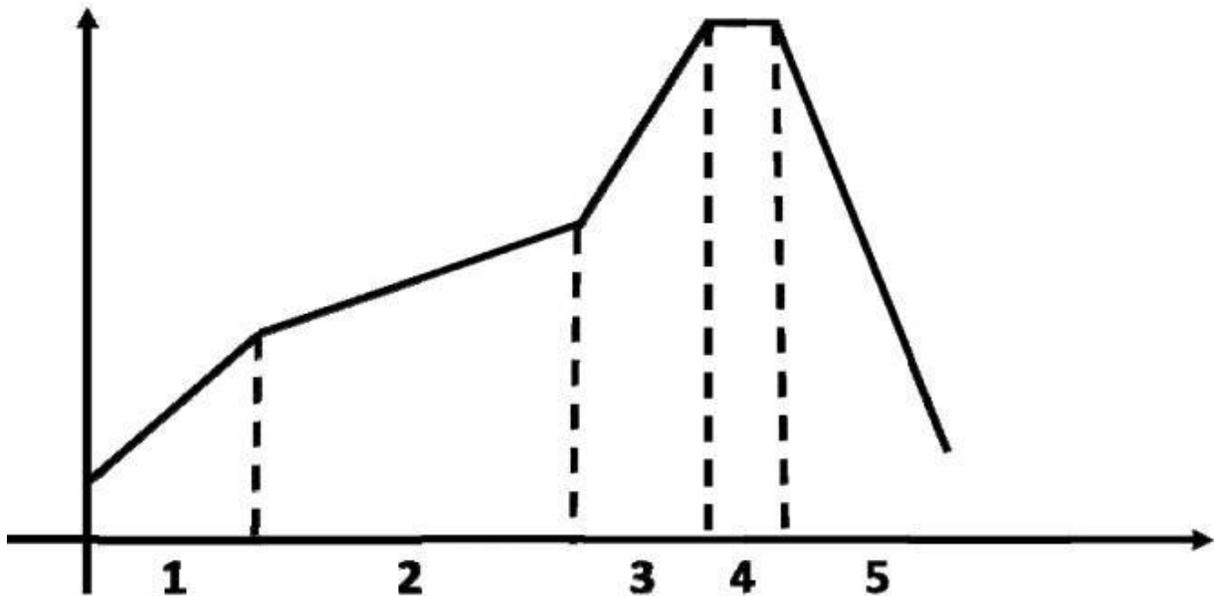
■ Typical Characteristic Curve 典型特性曲线



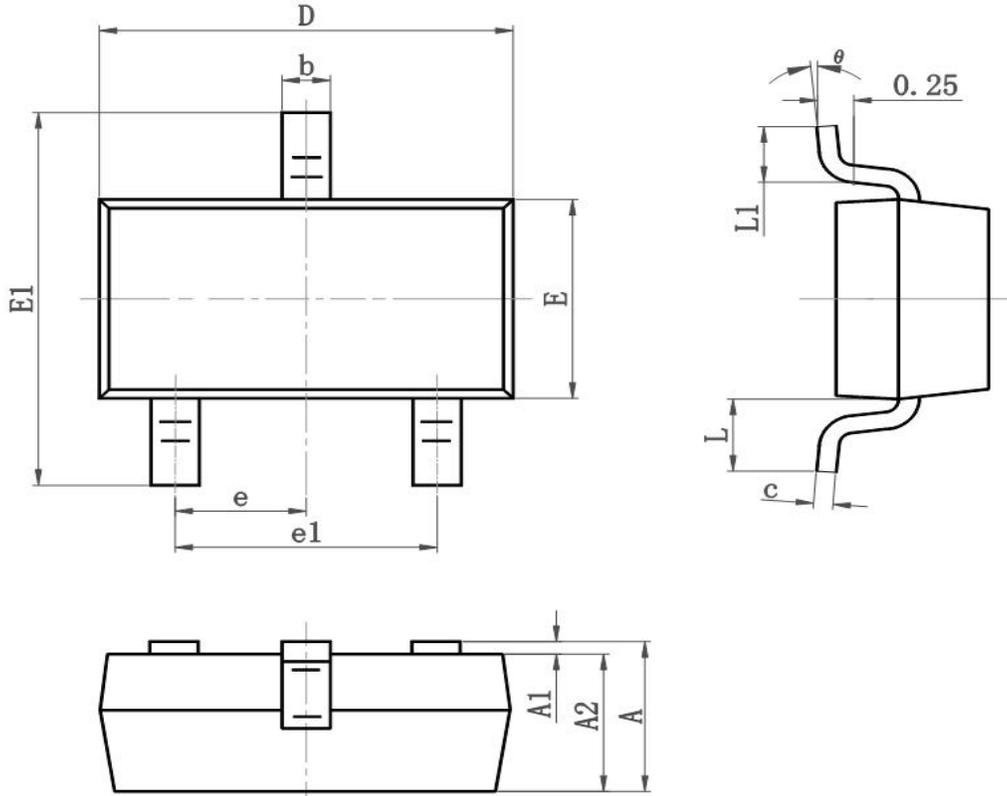
■ Soldering profile 焊接规范

Profile Feature 阶段	Reflow Soldering 回流焊	Wave Soldering 波峰焊
1、Preheat Ramp up Rate 预热升温速率	1-4°C/S	1-7°C/S
2、Soak Temperature 浸润温度	150°C-200°C	110°C-140°C
Soak Time 浸润时间	60-180S	60-120S
3、Ramp up to Peak 峰温前升温速率	1-4°C/S	1-50°C/S
4、Peak Soak Temperature 峰温浸润温度	245°C-260°C	245°C-260°C
Peak Soak Time 峰温浸润时间	10S Max	10S Max
5、Ramp down Rate 降温速率	1-6°C/S Max	1-7°C/S

Pb free Assembly 无铅环保工艺



■Dimension 外形封装尺寸



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.050	0.055
E1	2.250	2.550	0.089	0.100
e	0.900	1.00	0.035	0.039
e1	1.800	2.000	0.071	0.079
L	0.500	0.600	0.020	0.024
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°