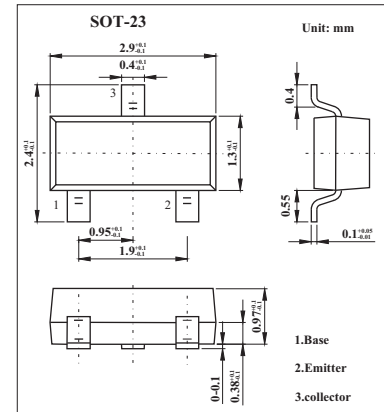
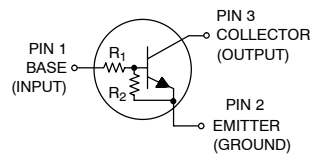


NPN Silicon Bias Resistor Transistor

KMUN2214

■ Features

- Simplifies Circuit Design
- Reduces Board Space
- Reduces Component Count



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	50	V
Collector Current -Continuous	I_C	0.1	A
Collector Power dissipation	P_C	0.24	W
Thermal Resistance Junction-to-Ambient	$R_{\theta JA}$	508	$^\circ\text{C}/\text{W}$
Junction temperature	T_J	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 10 \mu\text{A}$, $I_E = 0$	50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 2\text{mA}$, $I_B = 0$	50			V
Collector cut-off current	I_{CBO}	$V_{CB} = 50\text{V}$, $I_E = 0$			0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE} = 50\text{V}$, $I_B = 0$			0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 6\text{V}$, $I_C = 0$			0.2	mA
DC current gain	h_{FE}	$V_{CE} = 10\text{V}$, $I_C = 5.0\text{mA}$	80	140		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}$, $I_B = 0.3\text{mA}$			0.25	V
Output Voltage (on)	V_{OL}	$V_{CC} = 5.0\text{V}$, $V_B = 2.5\text{V}$, $R_L = 1.0\text{k}\Omega$			0.2	V
Output Voltage (off)	V_{OH}	$V_{CC} = 5.0\text{V}$, $V_B = 0.5\text{V}$, $R_L = 1.0\text{k}\Omega$	4.9			V
Input Resistor	R_1		7.0	10	13	$\text{k}\Omega$
Resistor Ratio	R_1/R_2		0.17	0.21	0.25	

■ Marking

Marking	A8D

KMUN2214

Typical Characteristics

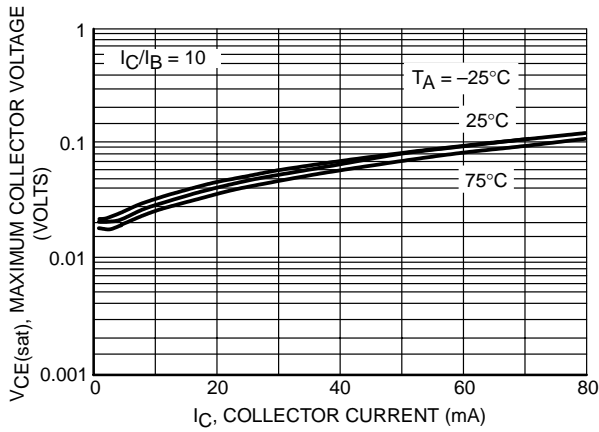


Figure 1. $V_{CE(sat)}$ vs. I_C

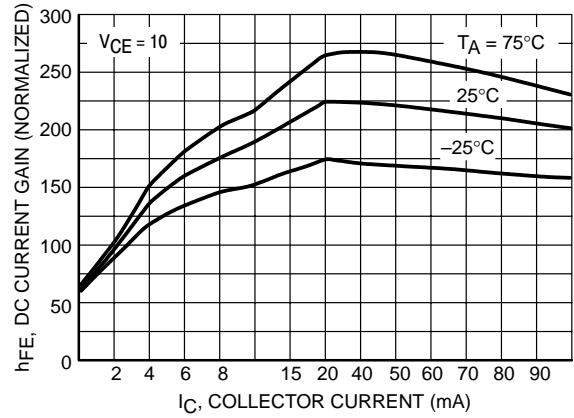


Figure 2. DC Current Gain

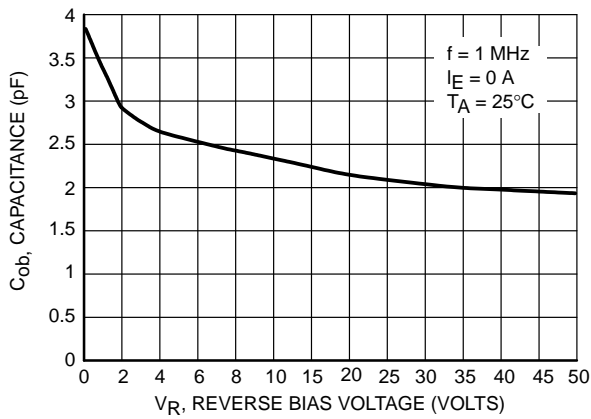


Figure 3. Output Capacitance

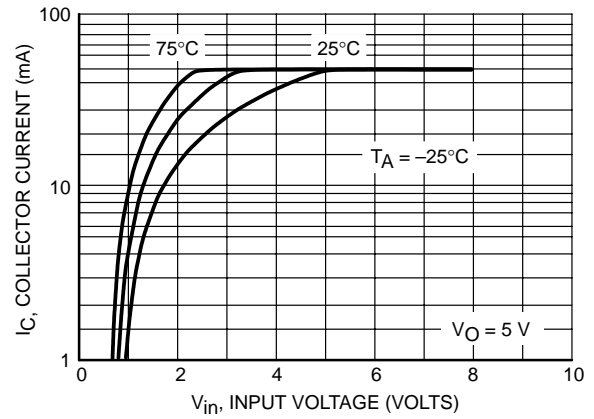


Figure 4. Output Current vs. Input Voltage

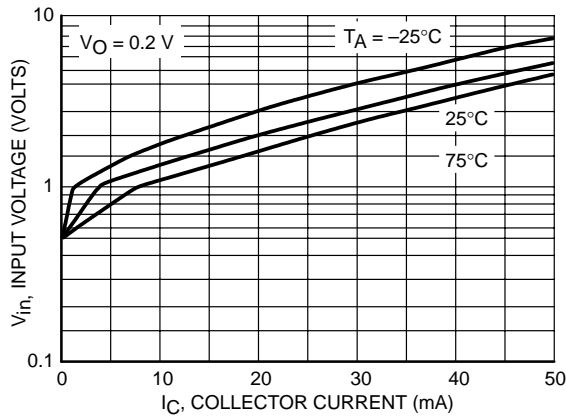


Figure 5. Input Voltage vs. Output Current