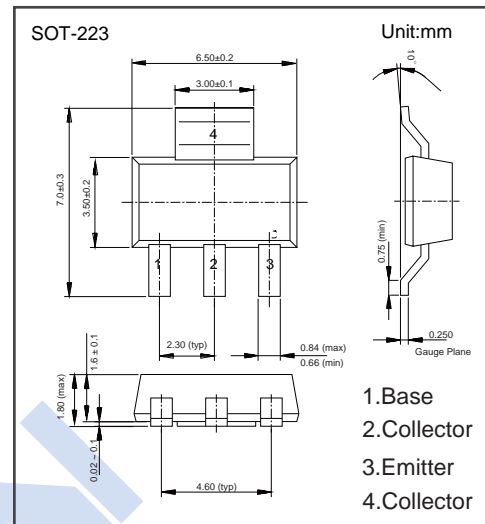


PNP Transistors

2KB4021

■ Features

- Collector Current Capability $I_C = -3A$
- Collector Emitter Voltage $V_{CE0} = -140V$
- Very low saturation voltages

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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	-180	V
Collector - Emitter Voltage	V_{CEO}	-140	
Emitter - Base Voltage	V_{EBO}	-6	
Collector Current - Continuous	I_C	-3	A
Peak Pulse Current	I_{CM}	-10	
Collector Power Dissipation	P_C	3	W
Thermal Resistance, Junction to Ambient (Note 1)	$R_{\theta JA}$	78	$^\circ C/W$
Operating and Storage Temperature Range	T_J, T_{stg}	-55 to 150	$^\circ C$

Note 1: For a device mounted with the collector lead on 25mm x 25mm 1oz copper that is on a single-sided 1.6mm FR4 PCB; device is measured under still air conditions whilst operating in steady-state.

PNP Transistors

2KB4021

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_c = -100 \mu\text{A}$, $I_E = 0$	-180			V
Collector- emitter breakdown voltage	V_{CER}	$I_c = -1 \mu\text{A}$, $R_B \leq 1\text{k}\Omega$	-180			
Collector- emitter breakdown voltage	V_{CEO}	$I_c = -10 \text{mA}$, $I_B = 0$	-140			
Emitter - base breakdown voltage	V_{EBO}	$I_E = -100 \mu\text{A}$, $I_c = 0$	-6			
Collector-base cut-off current	I_{CBO}	$V_{CB} = -150 \text{V}$, $I_E = 0$			-50	nA
		$V_{CB} = -150 \text{V}$, $I_E = 0$, $T_a = 100^\circ\text{C}$			-1	μA
Collector cut-off current $R < 1\text{k}\Omega$	I_{CER}	$V_{CE} = -150 \text{V}$, $I_E = 0$			-50	nA
		$V_{CE} = -150 \text{V}$, $I_E = 0$, $T_a = 100^\circ\text{C}$			-1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -6\text{V}$, $I_c = 0$			-10	nA
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c = -100 \text{mA}$, $I_B = -5 \text{mA}$			-60	mV
		$I_c = -500 \text{mA}$, $I_B = -50 \text{mA}$			-120	
		$I_c = -1 \text{A}$, $I_B = -100 \text{mA}$			-150	
		$I_c = -3 \text{A}$, $I_B = -300 \text{mA}$			-350	
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_c = -3 \text{A}$, $I_B = -300 \text{mA}$			-1100	
Base - emitter turn-on voltage	$V_{BE(on)}$	$V_{CE} = -5\text{V}$, $I_c = -3\text{A}$			-950	
DC current gain	h_{FE}	$V_{CE} = -5\text{V}$, $I_c = -10 \text{mA}$	100			
		$V_{CE} = -5\text{V}$, $I_c = -1 \text{A}$	100		300	
		$V_{CE} = -5\text{V}$, $I_c = -3 \text{A}$	75			
		$V_{CE} = -5\text{V}$, $I_c = -10 \text{A}$		10		
Switching Times	t_{on}	$I_c = -1\text{A}$, $I_{B1} = 100 \text{mA}$		60		ns
	t_{off}	$I_{B2} = -100 \text{mA}$, $V_{CC} = -50\text{V}$		980		
Collector output capacitance	C_{ob}	$V_{CB} = -20\text{V}$, $f = 1\text{MHz}$		40		pF
Transition frequency	f_T	$V_{CE} = -10\text{V}$, $I_c = -100 \text{mA}$, $f = 50\text{MHz}$		110		MHz

Note : Measured under pulsed conditions. Pulse width $\leq 300 \mu\text{s}$. Duty cycle $\leq 2\%$

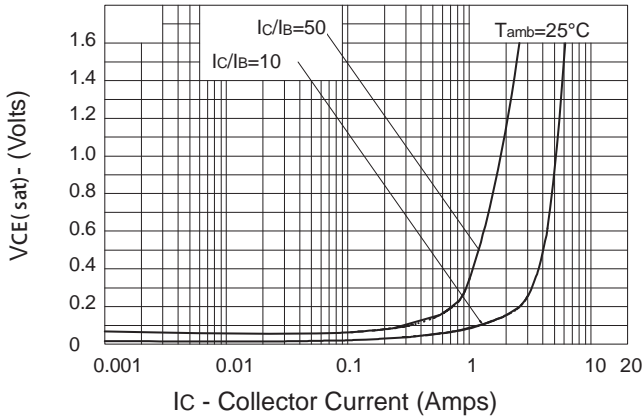
■ Marking

Marking	2KF K***
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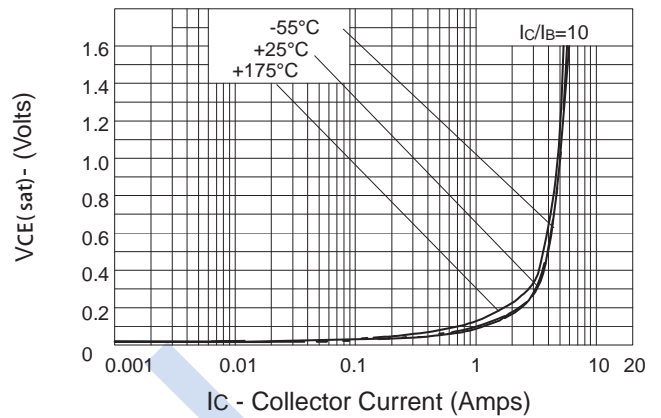
PNP Transistors

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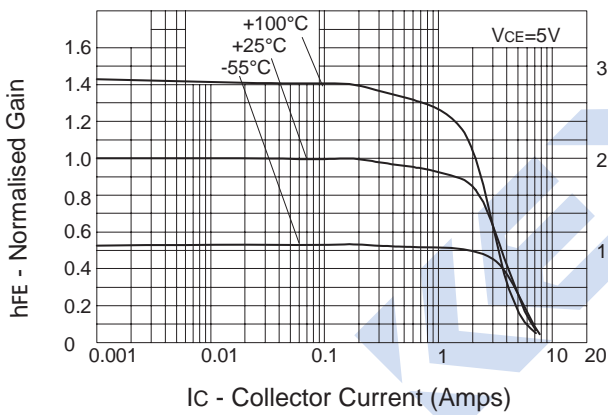
Typical Characteristics



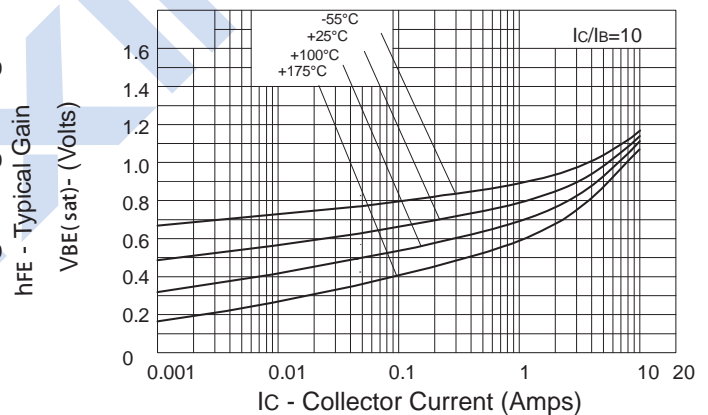
VCE(sat) V IC



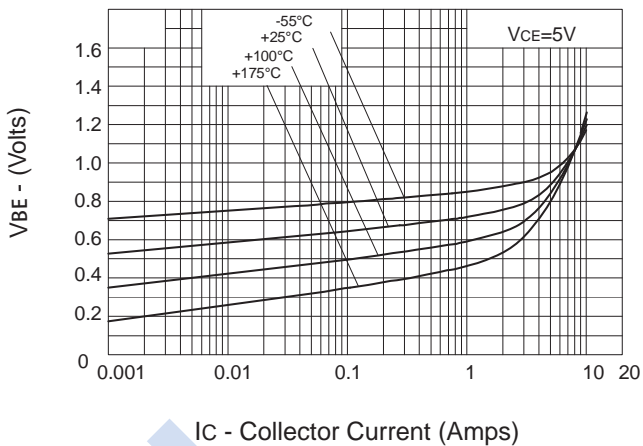
VCE(sat) V IC



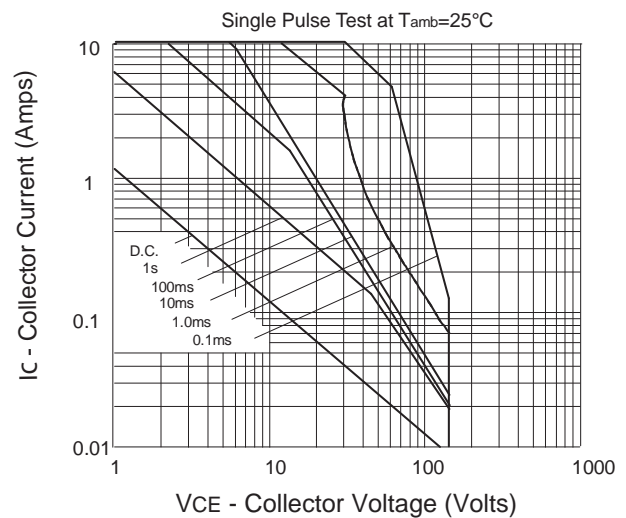
hFE V IC



VBE(sat) V IC



VBE(sat) V IC



Safe Operating Area