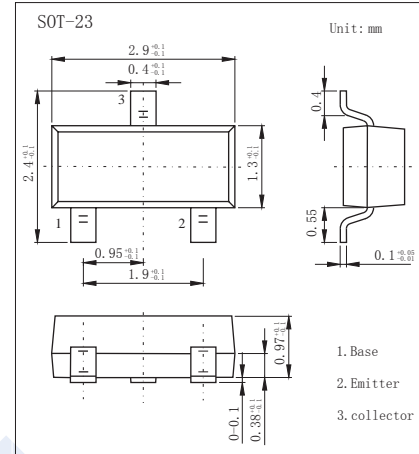


NPN Transistors

2KC1103

■ Features

- Collector Current Capability $I_c=50\text{mA}$
- Collector Emitter Voltage $V_{CE0}=11\text{V}$



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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CB0}	20	V
Collector - Emitter Voltage	V_{CE0}	11	
Emitter - Base Voltage	V_{EB0}	3	
Collector Current - Continuous	I_c	50	mA
Collector Power Dissipation	P_c	150	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to 150	

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CB0}	$I_c = 100 \mu\text{A}, I_E = 0$	20			V
Collector- emitter breakdown voltage	V_{CE0}	$I_c = 1 \text{ mA}, R_{BE} = \infty$	11			
Emitter - base breakdown voltage	V_{EB0}	$I_E = 100 \mu\text{A}, I_c = 0$	3			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 20 \text{ V}, I_E = 0$			0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 3 \text{ V}, I_c = 0$			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c = 10 \text{ mA}, I_B = 5 \text{ mA}$			0.7	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_c = 10 \text{ mA}, I_B = 5 \text{ mA}$			1.2	
DC current gain	h_{FE}	$V_{CE} = 10 \text{ V}, I_c = 5 \text{ mA}$	100		200	
Conversion gain	CG	$V_{CC} = 6 \text{ V}, I_c = 2 \text{ mA}, f = 900 \text{ MHz}, f_{osc} = 930 \text{ MHz (0dBm)}, f_{out} = 30 \text{ MHz}$		15		dB
Noise figure	NF	$V_{CC} = 6 \text{ V}, I_c = 2 \text{ mA}, f = 900 \text{ MHz}, f_{osc} = 930 \text{ MHz (0dBm)}, f_{out} = 30 \text{ MHz}$		9		
Oscillating output voltage	V_{osc}	$V_{CC} = 6 \text{ V}, I_c = 5 \text{ mA}, f = 930 \text{ MHz}$		140		mV
Collector output capacitance	C_{ob}	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$			1.5	pF
Transition frequency	f_T	$V_{CE} = 10 \text{ V}, I_c = 10 \text{ mA}$	1.4	3.5		GHz

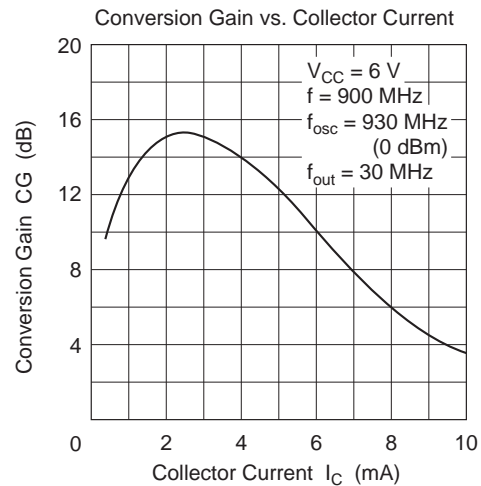
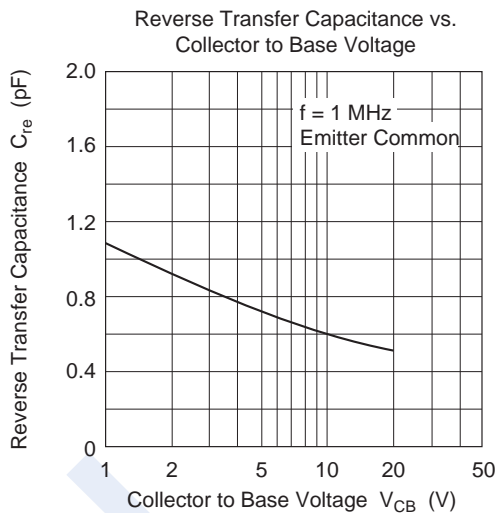
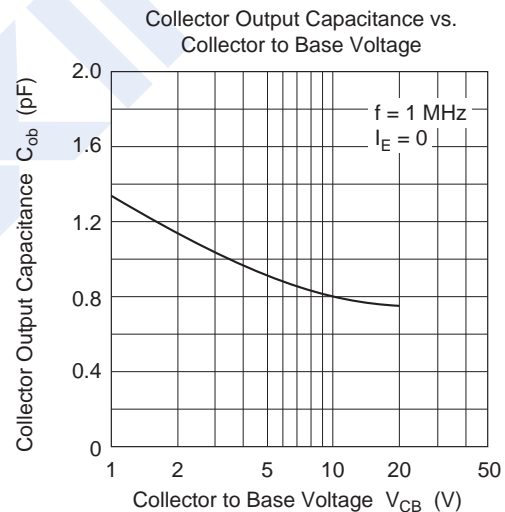
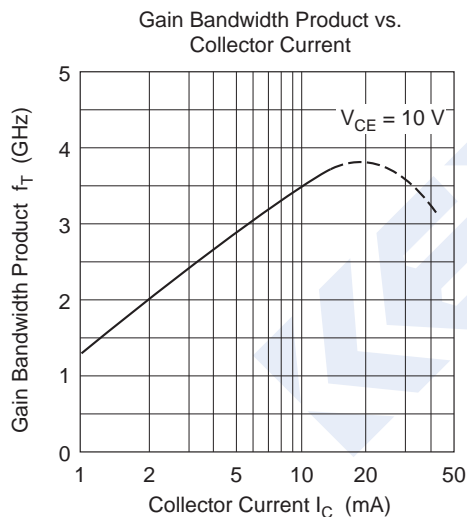
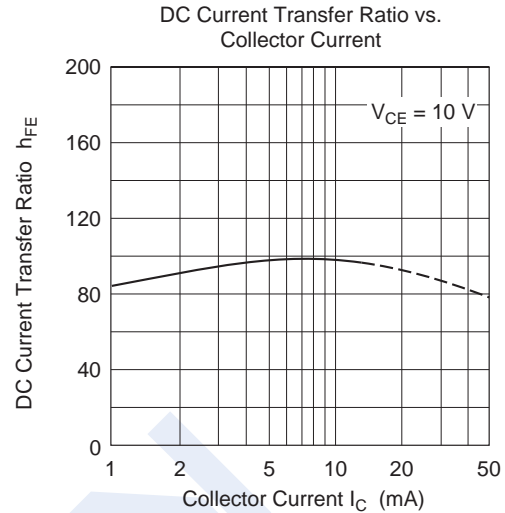
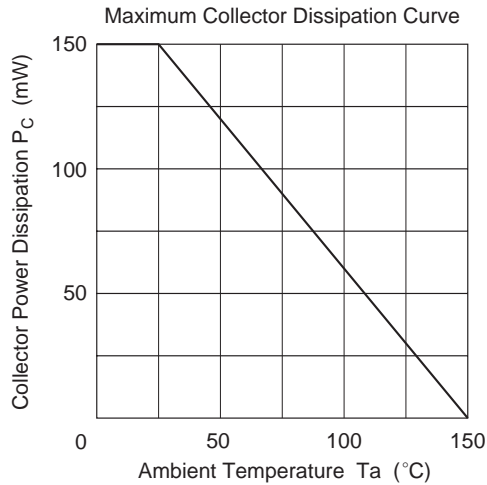
■ Marking

Marking	R03
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■ Typical Characteristics



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■ Typical Characteristics

