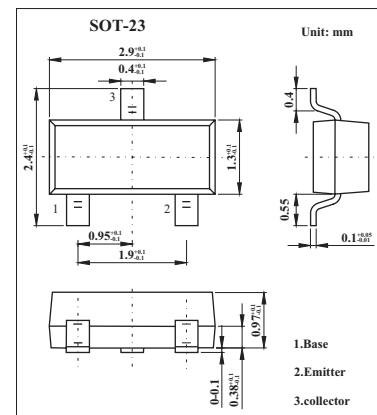


Silicon NPN Epitaxial**2SC2734****■ Features**

- UHF frequency converter

■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector-base voltage	V _{CBO}	20	V
Collector-emitter voltage	V _{CEO}	11	V
Emitter-base voltage	V _{EBO}	3	V
Collector current	I _C	50	mA
Collector power dissipation	P _C	150	mW
Junction temperature	T _J	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{CBO}	I _C = 10µA , I _E = 0	20			V
Collector-emitter breakdown voltage	V _{CEO}	I _C = 1mA , R _{BE} = ∞	11			V
Emitter-base breakdown voltage	V _{EBO}	I _E = 10µA , I _C = 0	3			V
Collector cutoff current	I _{CBO}	V _{CB} = 10V, I _C = 0			0.5	µ A
Collector to emitter saturation voltage	V _{CE(sat)}	I _C = 10 mA, I _B = 5 mA			0.7	V
DC current gain	h _{FE}	V _{CE} = 10 V, I _C = 5 mA	20	90	200	
Collector output capacitance	C _{ob}	V _{CB} = 10 V, I _E = 0, f = 1 MHz		0.9	1.5	pF
Conversion gain	CG	V _{CC} = 6 V, I _C = 2 mA, f = 900 MHz, f _{osc} = 930 MHz (0dBm), f = 30 MHz		15		dB
Noise figure	NF	V _{CC} = 6 V, I _C = 2 mA, f = 900 MHz, f _{osc} = 930 MHz (0dBm), f _{out} = 30 MHz		9		dB
Oscillating output voltage	V _{osc}	V _{CC} = 6 V, I _C = 5 mA, f = 930 MHz		140		mV
Transition frequency	f _T	V _{CE} = 10 V, I _C = 10 mA	1.4	3.5		GHz

■ Marking

Marking	GC
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2SC2734

■ Typical Characteristics

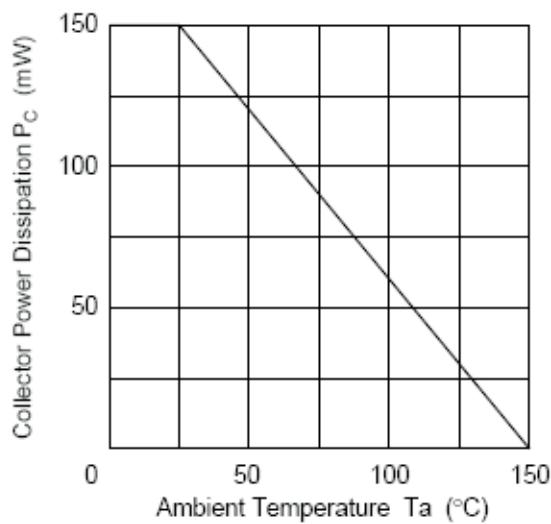


Fig.1 Maximum Collector Dissipation Curve

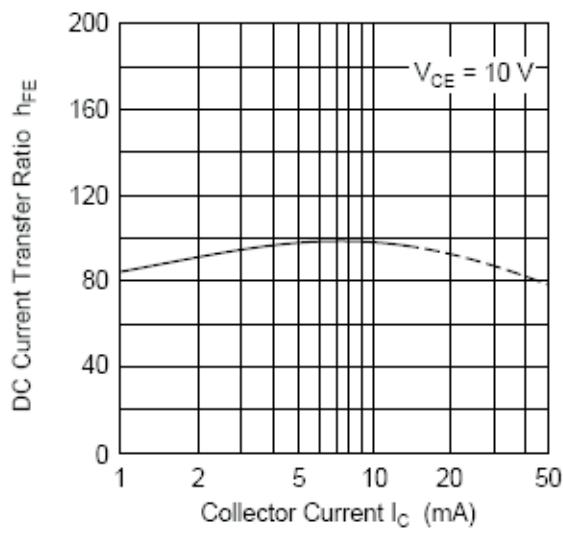


Fig.2 DC Current Transfer Ratio vs. Collector Current

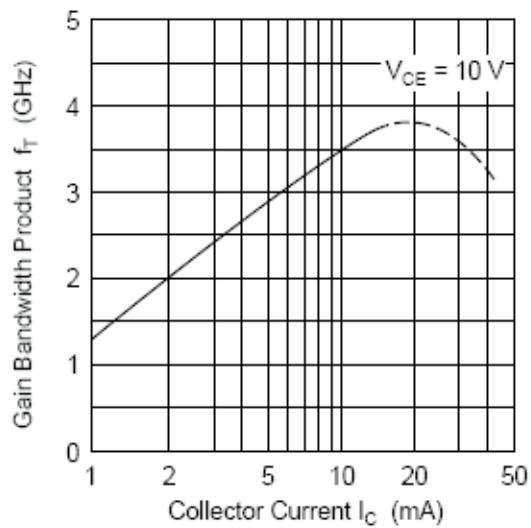


Fig.3 Gain Bandwidth Product vs. Collector Current

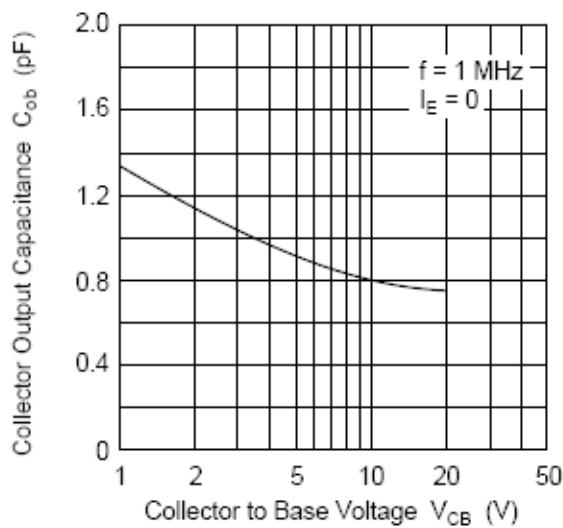


Fig.4 Collector Output Capacitance vs. Collector to Base Voltage

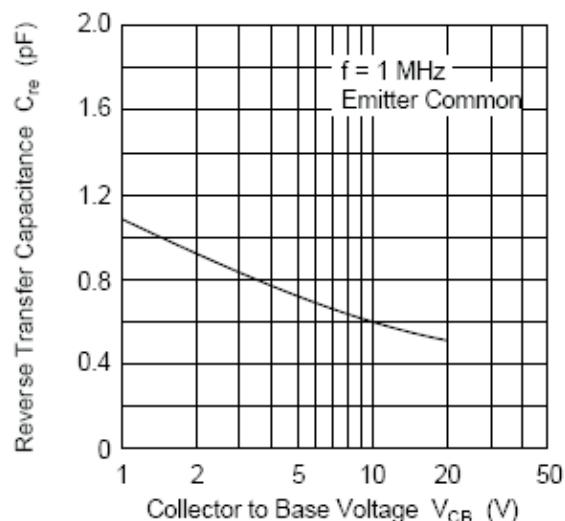
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Fig.5 Reverse Transfer Capacitance vs.
Collector to Base Voltage

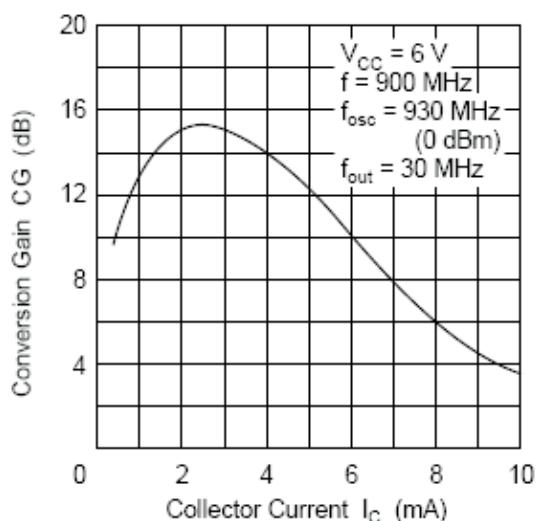


Fig.6 Conversion Gain vs. Collector Current

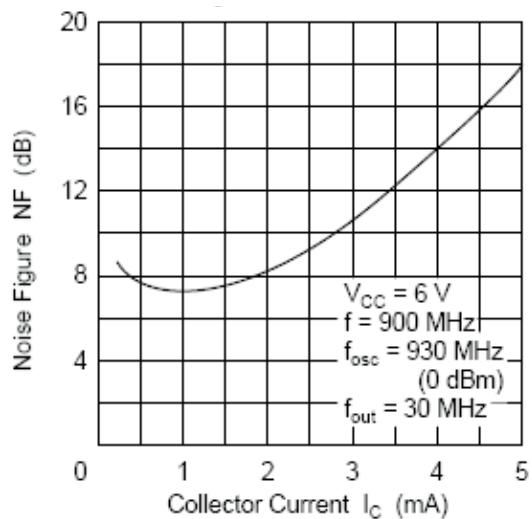


Fig.7 Noise Figure vs. Collector Current

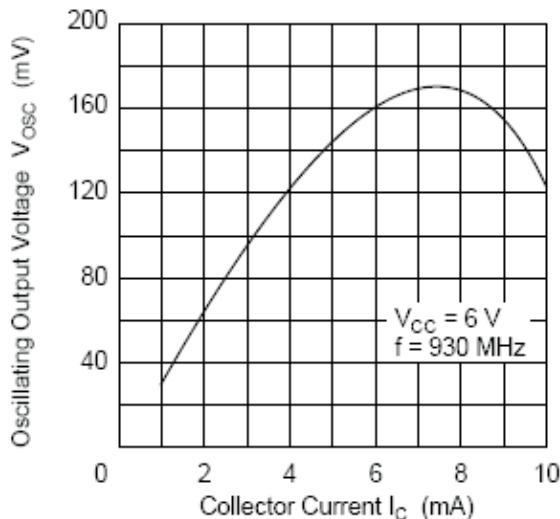


Fig.8 Oscillating Output Voltage vs.
Collector Current

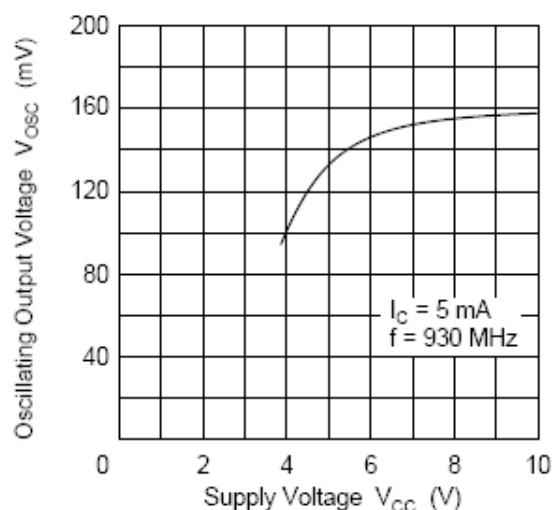
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Fig.9 Oscillating Output Voltage vs.
Supply Voltage

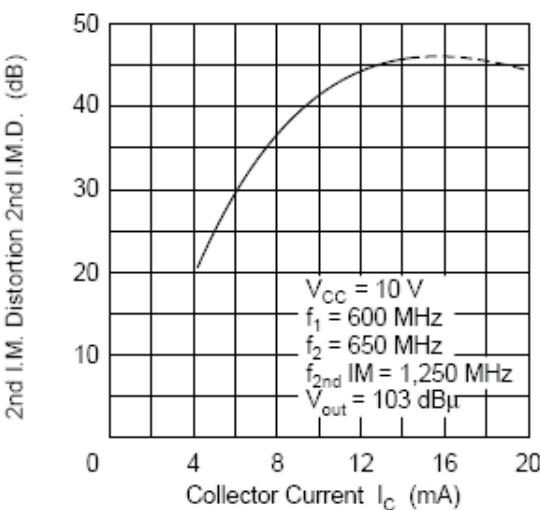


Fig.10 2nd I.M. Distortion vs. Collector Current

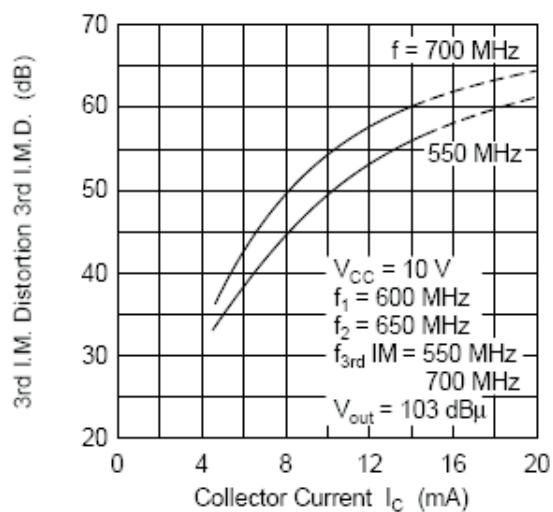


Fig.11 3rd I.M. Distortion vs. Collector Current

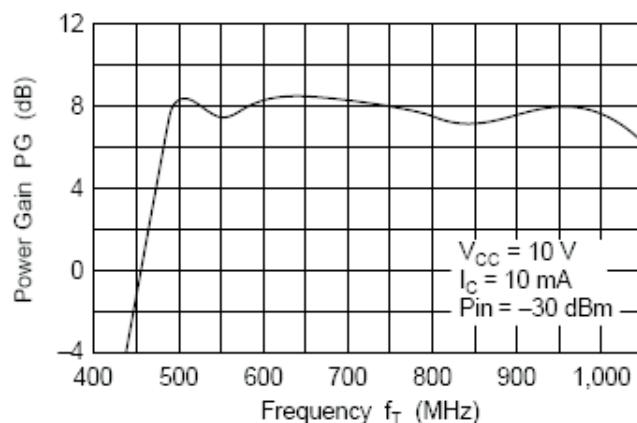


Fig.12 Power Gain vs. Frequency