

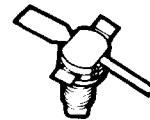
LT1814

The RF Line
NPN Silicon
High Frequency Transistor

... specifically designed for CRT driver applications requiring high voltage and high frequency, such as high resolution color graphics video monitors.

- High Voltage — $V_{(BR)CEO} = 120$ V Min
- High Cutoff Frequency — $f_T = 1000$ MHz Min
- Low Output Capacitance — $C_{cb} = 2.5$ pF Max (@ $V_{CB} = 15$ V)
- Gold Metallization
- Hermetic SOE Package

$f_T = 1000$ MHz MIN
HIGH FREQUENCY
TRANSISTOR
NPN SILICON



CASE 401-01, STYLE 2
 (GP-14)

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MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	120	Vdc
Emitter-Base Voltage	V_{EBO}	3	Vdc
Collector Current — Continuous	I_C	400	mAdc
Operating Junction Temperature	T_J	200	°C
Storage Temperature Range	T_{stg}	-65 to +200	°C

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Collector-Base Breakdown Voltage ($I_C = 0.1$ mA, $I_E = 0$)	$V_{(BR)CBO}$	120	—	—	Vdc
Emitter-Base Breakdown Voltage ($I_E = 0.1$ mA, $I_C = 0$)	$V_{(BR)EBO}$	3	—	—	Vdc
Collector Cutoff Current ($V_{CE} = 80$ V, $V_{BE} = 0$)	I_{CES}	—	—	100	μ Adc
Collector Cutoff Current ($V_{CB} = 80$ V, $I_E = 0$)	I_{CBO}	—	—	20	μ Adc

ON CHARACTERISTICS

DC Current Gain ($I_C = 50$ mA, $V_{CE} = 5$ V)	h_{FE}	20	—	60	—
Collector-Emitter Saturation Voltage ($I_C = 50$ mA, $I_B = 5$ mA)	$V_{CE(sat)}$	—	—	800	mV

DYNAMIC CHARACTERISTICS

Collector-Base Capacitance ($V_{CB} = 15$ V, $I_E = 0$, $f = 1$ MHz)	C_{cb}	—	—	4	pF
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FUNCTIONAL TESTS

Cutoff Frequency ($V_{CE} = 15$ V, $I_C = 50$ mA, $f = 250$ MHz)	f_T	1	—	—	GHz
Insertion Gain ($V_{CE} = 10$ V, $I_C = 50$ mA, $f = 200$ MHz)	$ S_{21} ^2$	15	—	—	dB
Maximum Oscillation Frequency ($V_{CE} = 10$ V, $I_C = 80$ mA, $f = 200$ MHz)	f_{MAX}	2	—	—	GHz

TYPICAL CHARACTERISTICS

2

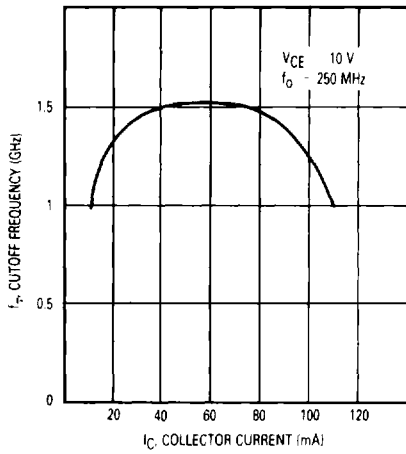


Figure 1. Gain Bandwidth Product versus Collector Current

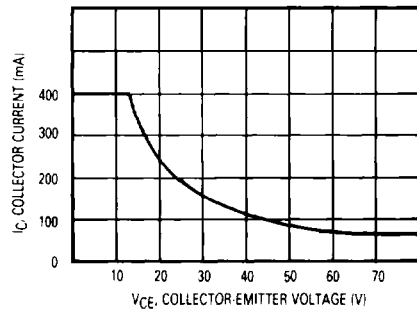


Figure 2. Safe Operating Area

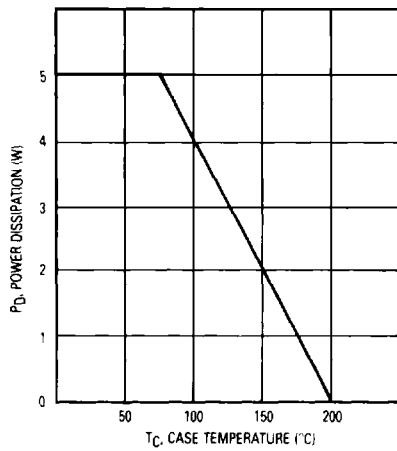


Figure 3. Power Dissipation versus Temperature

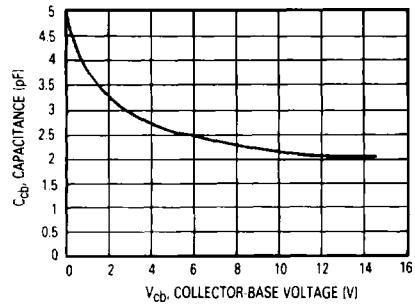


Figure 4. Junction Capacitance versus Voltage