

LT5839

The RF Line
PNP Silicon
High Frequency Transistor

$I_C = -300$ mA
HIGH FREQUENCY
HIGH VOLTAGE
TRANSISTOR
PNP SILICON



CASE 79-04, STYLE 1
(TO-39)

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

- PNP Complement to LT1839
- High Voltage — $V_{(BR)CBO} = 80$ V Min
- High Cutoff Frequency — $f_T = 1500$ MHz Min
- Low Output Capacitance — $C_{cb} = 2.5$ pF Max @ $V_{CB} = 15$ V
- Gold Metallization

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	65	Vdc
Collector-Base Voltage	V_{CBO}	80	Vdc
Emitter-Base Voltage	V_{EBO}	3	Vdc
Collector Current — Continuous	I_C	300	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-Emitter Breakdown Voltage ($I_C = 1$ mA, $I_B = 0$)	$V_{(BR)CEO}$	65	—	—	Vdc
Collector-Base Breakdown Voltage ($I_C = 0.1$ mA, $I_E = 0$)	$V_{(BR)CBO}$	80	—	—	Vdc
Emitter-Base Breakdown Voltage ($I_E = 0.1$ mA, $I_C = 0$)	$V_{(BR)EBO}$	-3	—	—	Vdc
Collector Cutoff Current ($V_{CB} = 50$ V, $I_E = 0$)	I_{CBO}	—	—	20	μ Adc
Collector Cutoff Current ($V_{CE} = 50$ V, $V_{BE} = 0$)	I_{CES}	—	—	100	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}	—	—	2.5	pF
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FUNCTIONAL TESTS

Cutoff Frequency ($V_{CE} = 10$ V, $I_C = 50$ mA, $f = 250$ MHz)	f_T	1.5	—	—	GHz
Insertion Gain ($V_{CE} = 10$ V, $I_C = 50$ mA, $f = 200$ MHz)	$ S_{21} ^2$	13	—	—	dB

TYPICAL CHARACTERISTICS

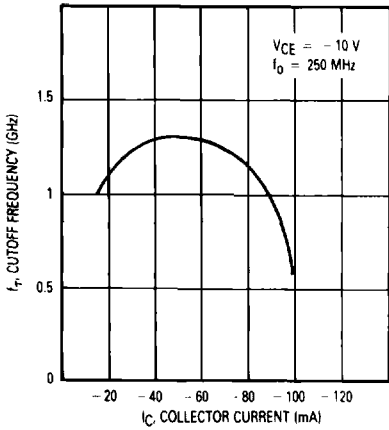


Figure 1. Gain Bandwidth Product versus Collector Current

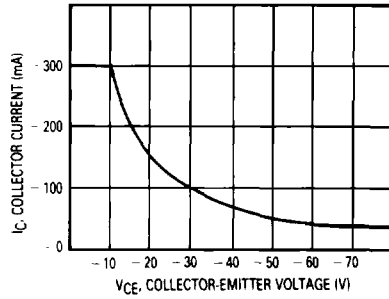


Figure 2. Safe Operating Area

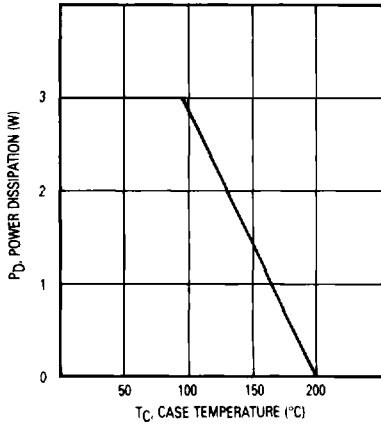


Figure 3. Power Dissipation versus Temperature

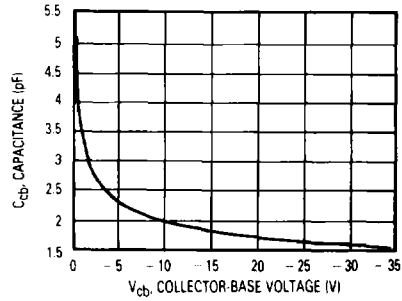


Figure 4. Junction Capacitance versus Voltage