

RF Devices Division
TRW Electronic Components Group



LT1739

High Frequency, High Voltage Transistor
Ideal for CRT Driver Applications

NPN

- High Voltage
- High Frequency
- Low Capacitance
- Rugged
- All Gold Metallization



TO-39 Package

These rugged NPN silicon transistors are specifically designed for CRT driver applications requiring high frequency and high voltage, such as high resolution color graphics video monitors.

A new process in wafer fabrication enables high breakdown voltage without sacrificing high frequency capability. Utilizing ion implantation techniques coupled with microwave processing,

the LT1739 sets new standards for bipolar transistors in these applications. Gold metallization insures high reliability for these rugged devices.

Electrical Characteristics (25°C Unless otherwise noted.)

Symbol	Description	Conditions	Min.	Max.	Units
BVEBO	Emitter-Base Breakdown-Voltage	$I_E = .1mA$	3.0		V
BVCBO	Collector-Base Breakdown-Voltage	$I_C = .1mA$	100		V
BVCER	Collector-Emitter Breakdown-Voltage	$I_C = 1mA$ $R = 1K$	100		V
ICES	Collector-Emitter Leakage	$V_{CE} = 70V$		100	μA
ICBO	Collector-Base Leakage	$V_{CB} = 70V$		20	μA
hFE	DC Current Gain	$V_{CE} = 5V$ $I_C = 50mA$	15	60	
CcB	Collector-Base Capacitance	$V_{CB} = 10V$		2.2	pF
VCE (SAT)	Collector-Emitter Saturation Voltage	$I_C = 50mA$ $I_B = 5mA$		900	mV
Ft	Gain Bandwidth Product	$V_{CE} = 10V$ $I_C = 80mA$ $f_o = 250MHz$	900		MHz
S21	Common Emitter Insertion Gain	$V_{CE} = 10V$ $I_C = 50mA$ $f = 200MHz$	12		dB

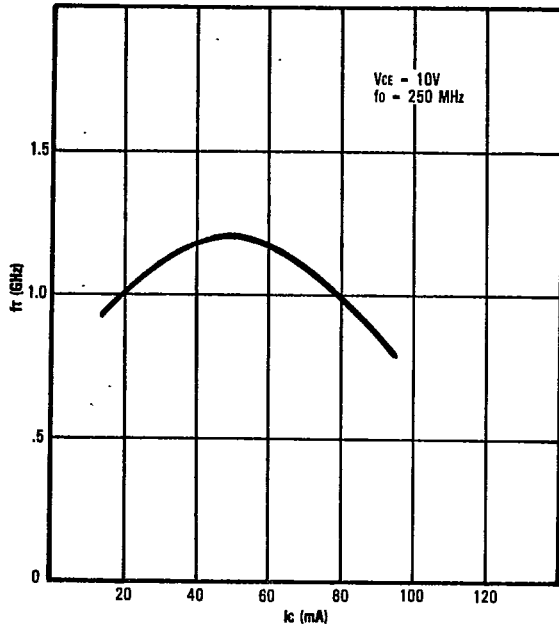
Absolute Maximum Ratings @ 25°C Case

Collector Current (Ic)	Collector Base Voltage (Vcbo)	Junction Temperature (Tj)	Storage Temperature (Tstg)
300mA	100V	+200°C	-65°C to +200°C

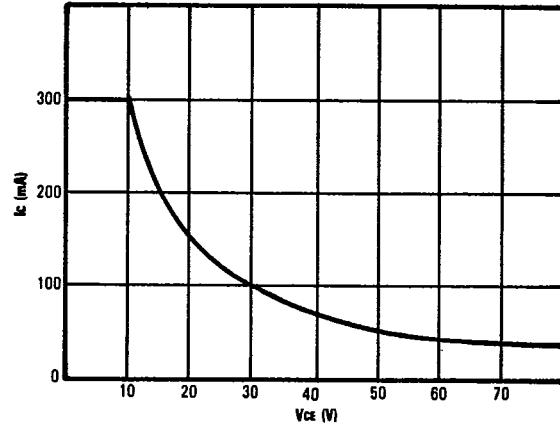
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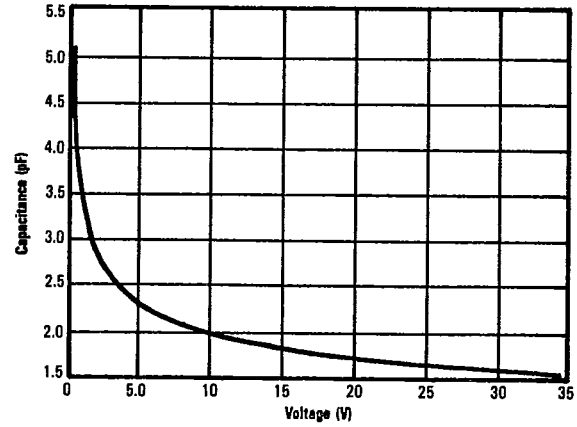
Typical Gain Bandwidth Product vs. Collector Current



Safe Operating Area



Typical Junction Capacitance vs. Voltage



Dissipation vs. Temperature

