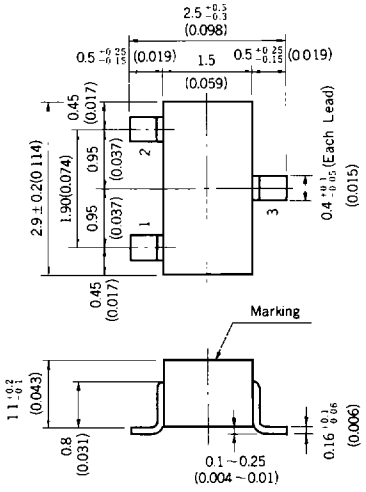
NEC
ELECTRON DEVICE

SILICON TRANSISTORS
2SC2756, 2SC2756R

VHF MIXER
NPN SILICON EPITAXIAL TRANSISTOR

PACKAGE DIMENSIONS
in millimeters (inches)



2SC2756
1. Emitter
2. Base
3. Collector

2SC2756R
1. Base
2. Emitter
3. Collector

DESCRIPTION

The 2SC2756, 2SC2756R are NPN silicon epitaxial transistor intended for use as a VHF mixer in a tuner of a TV receiver.
The device features are high conversion gain and low distortion.

FEATURES

- Low C_{re} : 0.4pF TYP.
- High conversion gain : 15dB TYP.
- Excellent h_{FE} linearity.

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

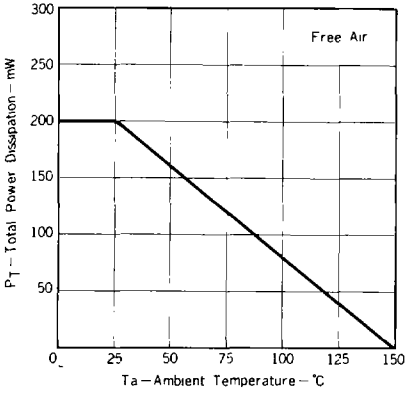
Maximum Voltages and Current .			
Collector to Base Voltage	V_{CBO}	30	V
Collector to Emitter Voltage	V_{CEO}	20	V
Emitter to Base Voltage	V_{EBO}	4.0	V
Collector Current	I_C	30	mA
Maximum Power Dissipation			
Total Power Dissipation	P_T	200	mW
Maximum Temperatures			
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

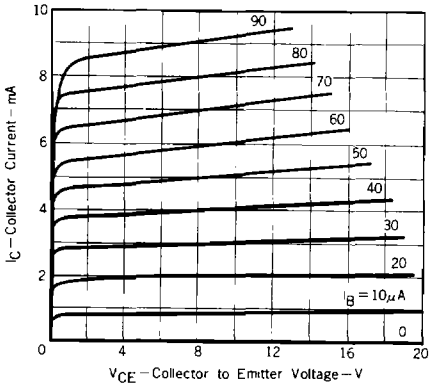
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CBO}			0.1	μA	V_{CB} = 20V, I_E = 0
DC Current Gain	h_{FE}	60	100	240		V_{CE} = 10V, I_C = 5.0mA
Collector Saturation Voltage	$V_{CE(sat)}$			0.5	V	I_C = 10mA, I_B = 1.0mA
Gain Bandwidth Product	f_T	500	850		MHz	V_{CE} = 10V, I_E = -5.0mA
Feed Back Capacitance	C_{re}		0.4	0.7	pF	V_{CB} = 10V, I_E = 0, f = 1.0MHz
Conversion Gain	G_C	12			dB	V_{CE} = 10V, I_E = -5.0mA f = 200MHz, f_{LO} = 258MHz

TYPICAL CHARACTERISTICS (Ta = 25°C)

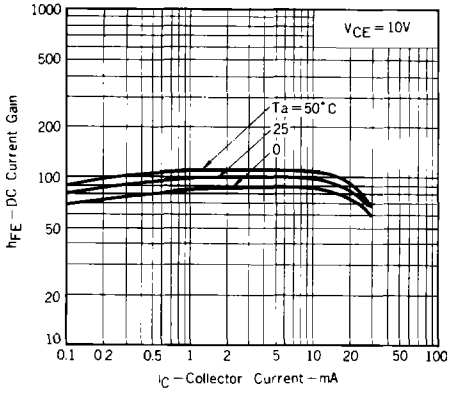
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



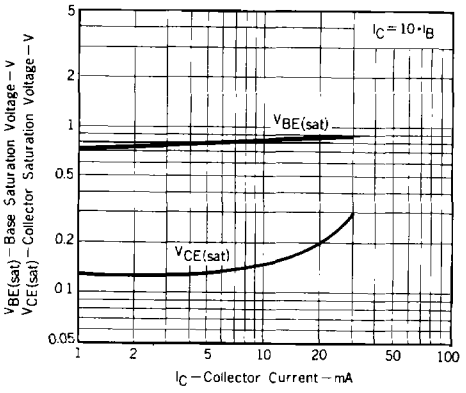
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



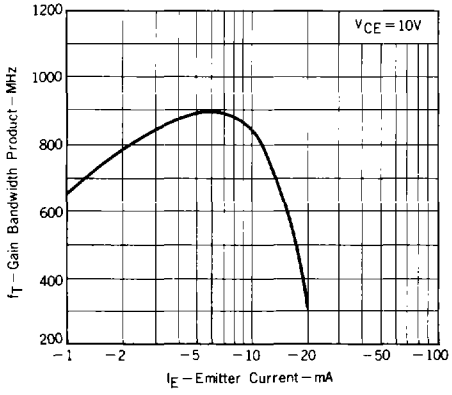
DC CURRENT GAIN vs. COLLECTOR CURRENT



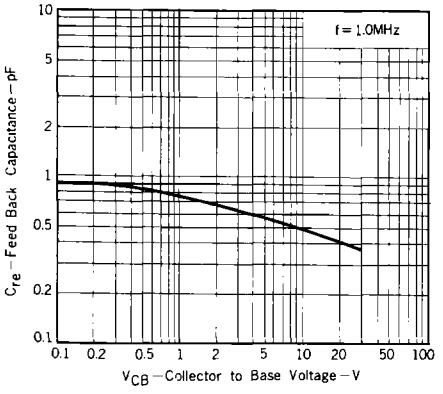
BASE AND COLLECTOR SATURATION VOLTAGE vs. COLLECTOR CURRENT



GAIN BANDWIDTH PRODUCT vs. EMITTER CURRENT



FEED BACK CAPACITANCE vs. COLLECTOR TO BASE VOLTAGE



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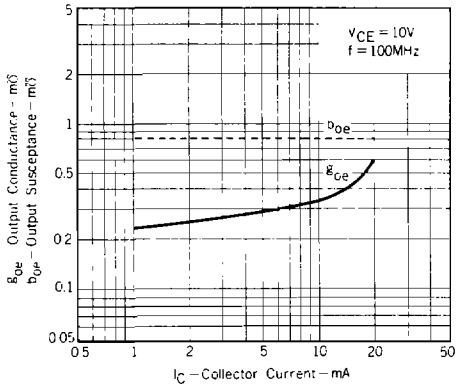
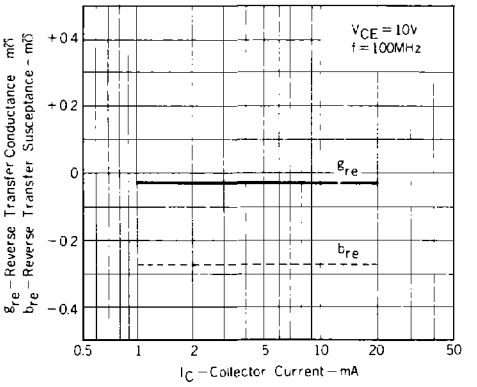
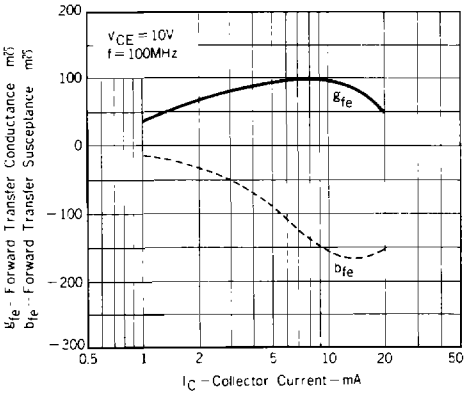
OUTPUT ADMITTANCE vs. COLLECTOR CURRENT



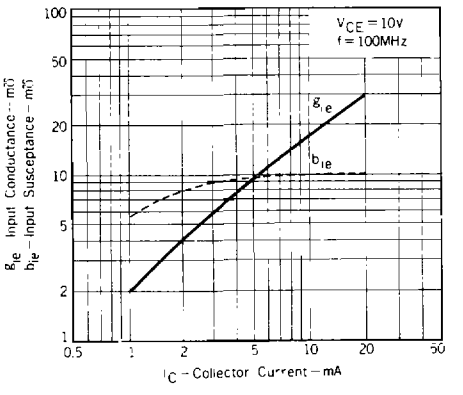
REVERSE TRANSFER ADMITTANCE vs. COLLECTOR CURRENT



FORWARD TRANSFER ADMITTANCE vs. COLLECTOR CURRENT



INPUT ADMITTANCE vs. COLLECTOR CURRENT



CONVERSION GAIN TEST CIRCUIT