To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

Renesas Electronics website: http://www.renesas.com

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (http://www.renesas.com)

Send any inquiries to http://www.renesas.com/inquiry.

RENESAS

RENESAS

SILICON TRANSISTOR

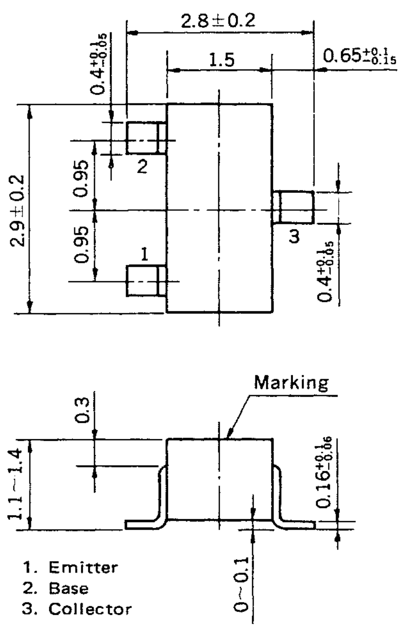
2SC2757

Phase-out/Discontinued

UHF/VHF OSCILLATOR AND VHF MIXER NPN SILICON EPITAXIAL TRANSISTOR MINI MOLD

PACKAGE DIMENSIONS

in millimeters



DESCRIPTION

The 2SC2757 is an NPN silicon epitaxial transistor intended for use as VHF and UHF oscillators and a VHF mixer in a tuner of a TV receiver.

The device features stable oscillation and small frequency drift against any change of the supply voltage and the ambient temperature.

It is designed for use in small type equipments especially recommended for Hybrid Integrated Circuit and other applications.

FEATURES

- High Gain Bandwidth Product; f_T = 1 100 MHz TYP.
- Low Collector to Base Time Constant; $C_c \cdot r_{b'b}$ = 10 ps TYP.
- Low Output Capacitance; C_{ob} = 1.5 pF MAX.

ABSOLUTE MAXIMUM RATINGS (T_a = 25 °C)

Maximum Voltages and Current			
Collector to Base Voltage	V_{CBO}	30	V
Collector to Emitter Voltage	V_{CEO}	15	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	50	mA
Maximum Power Dissipation			
Total Power Dissipation	P_T	150	mW
Maximum Temperatures			
Junction Temperature	T_j	125	°C
Storage Temperature	T_{stg}	−55 to +125	°C

ELECTRICAL CHARACTERISTICS (T_a = 25 °C)

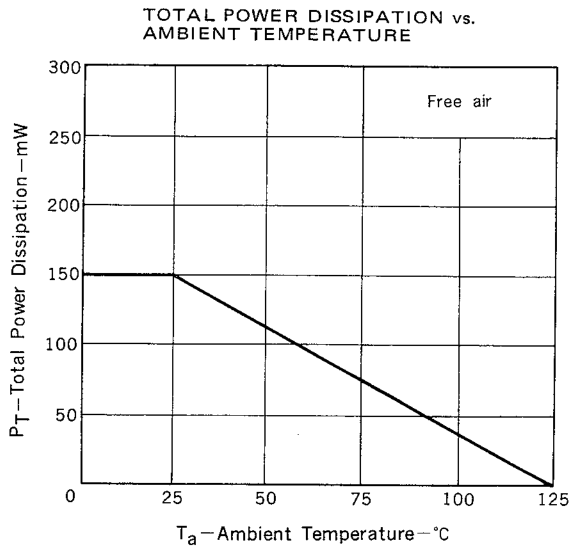
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CBO}			0.1	μA	V_{CB} = 12 V, I_E = 0
DC Current Gain	h_{FE}	60	120	240		V_{CE} = 10 V, I_C = 5.0 mA
Collector Saturation Voltage	$V_{CE(sat)}$		0.1	0.5	V	I_C = 10 mA, I_B = 1.0 mA
Gain Bandwidth Product	f_T	800	1100		MHz	V_{CE} = 10 V, I_E = −5.0 mA
Output Capacitance	C_{ob}			1.5	pF	V_{CB} = 10 V, I_E = 0, f = 1.0 MHz
Collector to Base Time Constant	$C_c \cdot r_{b'b}$		10	15	ps	V_{CE} = 10 V, I_E = −5.0 mA, f = 31.9 MHz

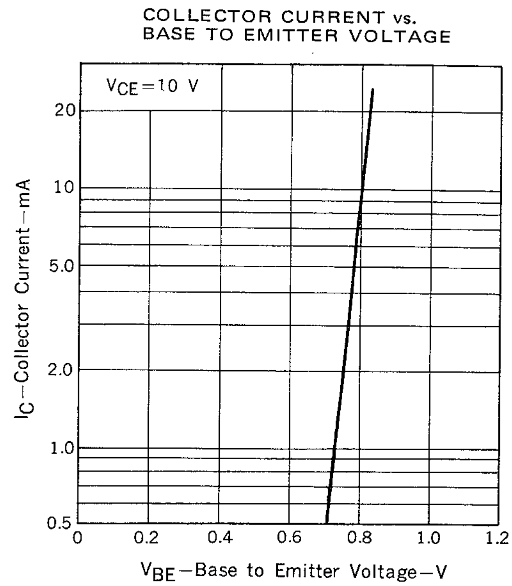
h_{FE} Classification

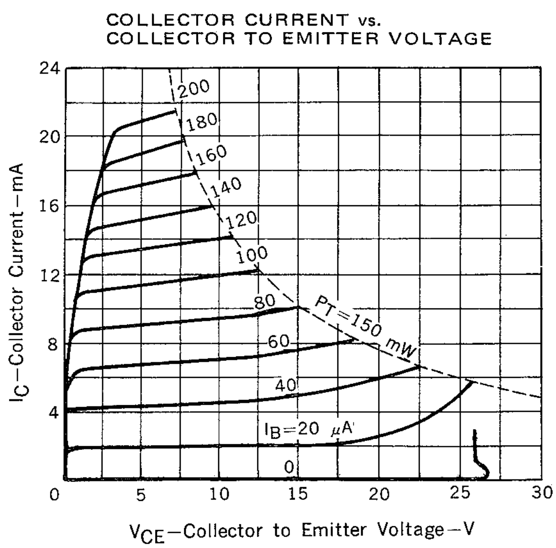
Marking	F	E
h_{FE}	60 to 120	100 to 240

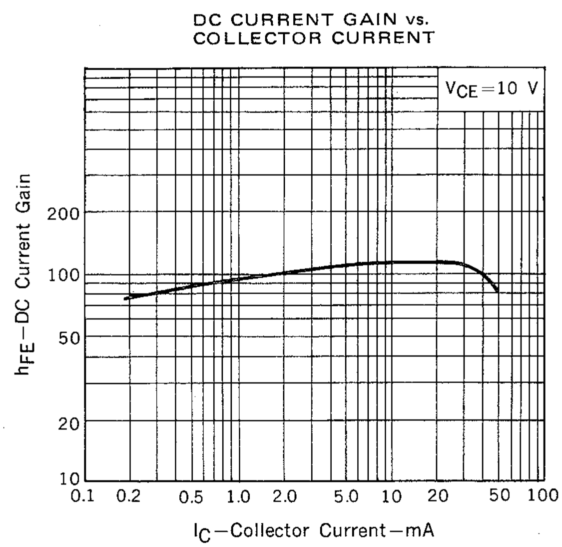
Phase-out/Discontinued

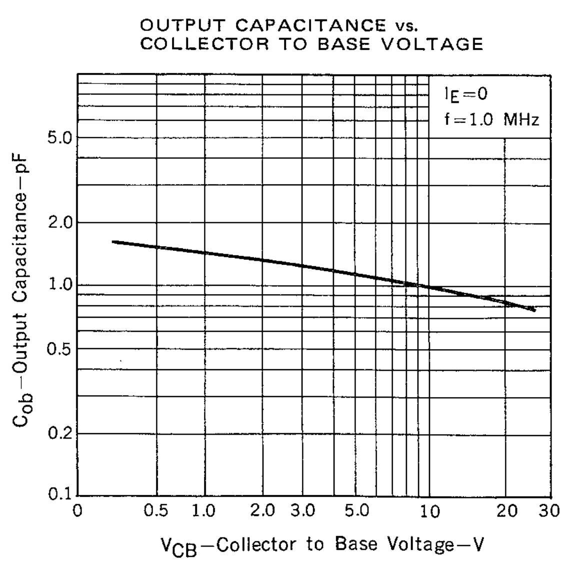
TYPICAL CHARACTERISTICS (T_a = 25 °C)



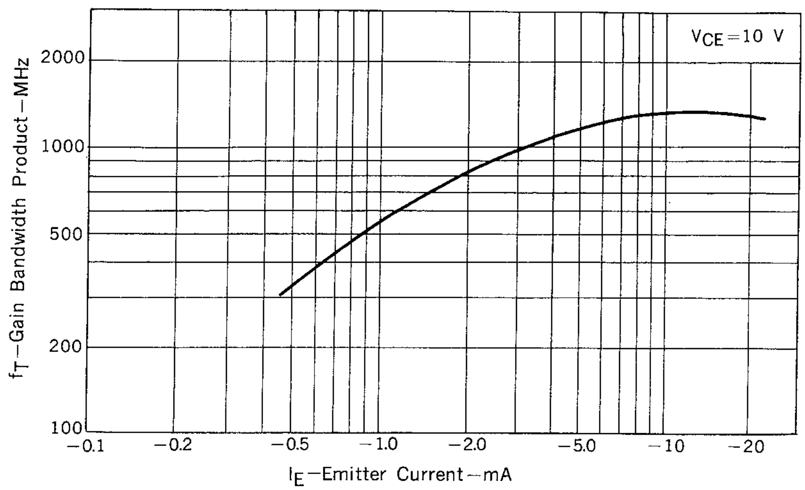




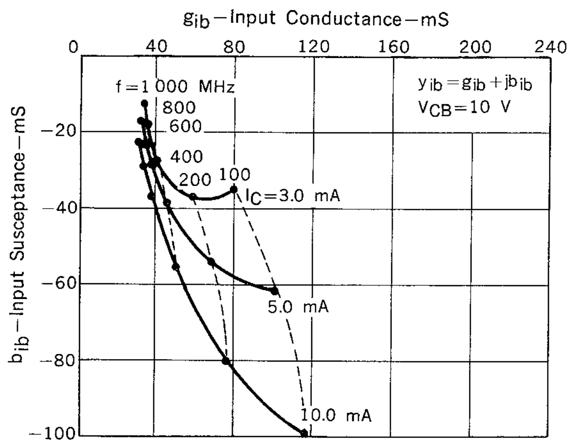




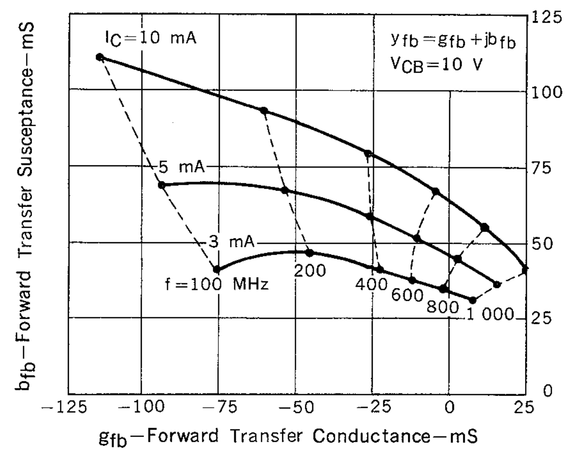
GAIN BANDWIDTH PRODUCT vs. EMITTER CURRENT



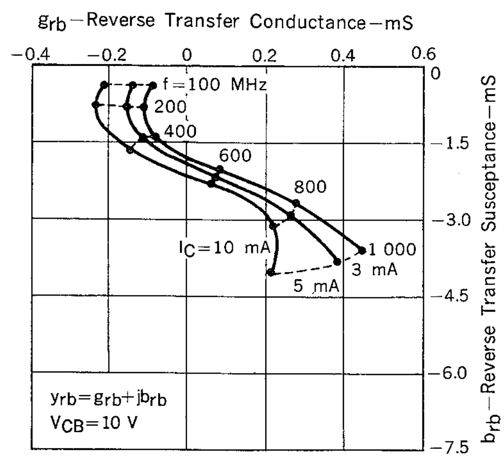
INPUT ADMITTANCE (y_{ib}) vs. FREQUENCY



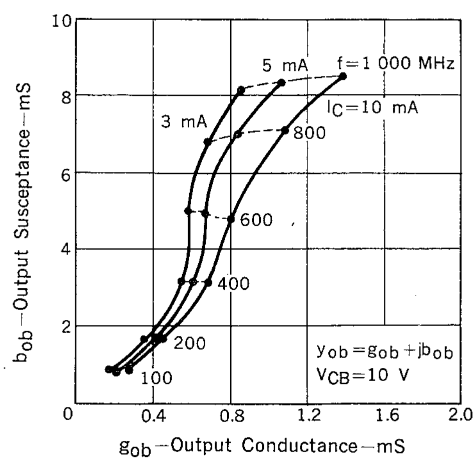
FORWARD TRANSFER ADMITTANCE (y_{fb}) vs. FREQUENCY



REVERSE TRANSFER ADMITTANCE (y_{rb}) vs. FREQUENCY



OUTPUT ADMITTANCE (y_{ob}) vs. FREQUENCY



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