NEC
ELECTRON DEVICE

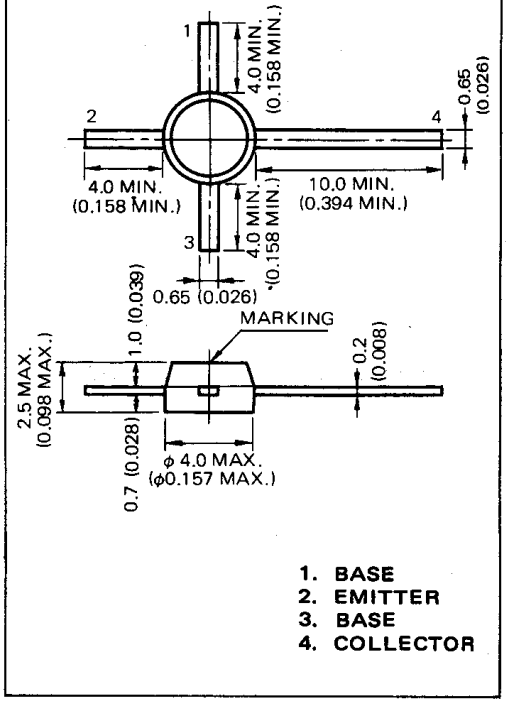
NPN SILICON TRANSISTOR
2SC2353

DESCRIPTION The 2SC2353 is specially designed for use as VHF and UHF mixer in a tuner of TV receiver. The influence of mirror effect is little by balanced base.

FEATURES

- Packaged in tiny plastic mold package.
- Low noise. NF : 4.0 dB (TYP.)
- High conversion gain. G_{cb} : 12.5 dB (TYP.)
- Balanced base.

PACKAGE DIMENSIONS
in millimeters (inches)



1. BASE
2. EMITTER
3. BASE
4. COLLECTOR

ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures

Storage Temperature . . . . . −55 to +125 °C

Junction Temperature . . . . . +125 °C Maximum

Maximum Power Dissipation (Ta=25 °C)

Total Power Dissipation . . . . . 200 mW

Maximum Voltages and Currents (Ta=25 °C)

V_{CBO}	Collector to Base Voltage	30	V
V_{CEO}	Collector to Emitter Voltage	14	V
V_{EBO}	Emitter to Base Voltage	3.0	V
I_C	Collector Current	50	mA
I_B	Base Current	10	mA

ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
h_{FE}	DC Current Gain	60	100	180		V_{CE}=10 V, I_C=5.0 mA
f_T	Gain Bandwidth Product	1.5	2.3		GHz	V_{CE}=10 V, I_E=−5.0 mA
C_{ob}	Output Capacitance		0.85	1.0	pF	V_{CB}=10 V, I_E=0, f=1 MHz
NF	Noise Figure		4.0	5.0	dB	V_{CB}=10 V, I_E=−5.0 mA, f=900 MHz
G_{pb}	Power Gain	14	16		dB	V_{CB}=10 V, I_E=−5.0 mA, f=900 MHz
G_{cb}	Conversion Gain	10	12.5		dB	f_{RF}=900 MHz, f_{LOC}=930 MHz V_{CB}=10 V, I_E=−5.0 mA Local level=110 mV
I_{CBO}	Collector Cutoff Current			0.1	μA	V_{CB}=15 V, I_E=0

Classification of h_{FE}

Rank	L	K
Range	60 – 120	90 – 180

h_{FE} Test Conditions : V_{CE}=10 V, I_C=5.0 mA