

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.

ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures

Storage Temperature **–55 to +125 °C**

Junction Temperature +125 °C Maximum

Maximum Power Dissipation ($T_a=25^\circ\text{C}$)

Total Power Dissipation 200 mW

Maximum Voltages and Currents (Ta=25 °C)

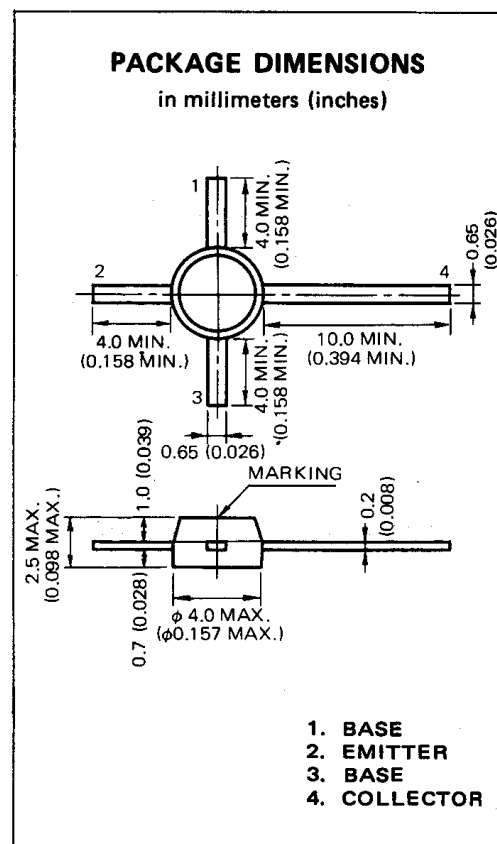
V_{CBO} Collector to Base Voltage 30 V

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		$V_{CE}=10\text{ V}$, $I_C=5.0\text{ mA}$
f_T	Gain Bandwidth Product	1.5	2.3		GHz	$V_{CE}=10\text{ V}$, $I_E=-5.0\text{ mA}$
C_{ob}	Output Capacitance		0.85	1.0	pF	$V_{CB}=10\text{ V}$, $I_E=0$, $f=1\text{ MHz}$
NF	Noise Figure		4.0	5.0	dB	$V_{CB}=10\text{ V}$, $I_E=-5.0\text{ mA}$, $f=900\text{ MHz}$
G_{pb}	Power Gain	14	16		dB	$V_{CB}=10\text{ V}$, $I_E=-5.0\text{ mA}$, $f=900\text{ MHz}$
G_{cb}	Conversion Gain	10	12.5		dB	$\left\{ \begin{array}{l} f_{RF}=900\text{ MHz}, f_{LOC}=930\text{ MHz} \\ V_{CB}=10\text{ V}, I_E=-5.0\text{ mA} \\ \text{Local level}=110\text{ mV} \end{array} \right.$
I_{CBO}	Collector Cutoff Current			0.1	μA	$V_{CB}=15\text{ V}$, $I_E=0$

Classification of hFE

Rank	L	K
Range	60 – 120	90 – 180

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