

NEC

NPN SILICON TRANSISTOR 2SC945

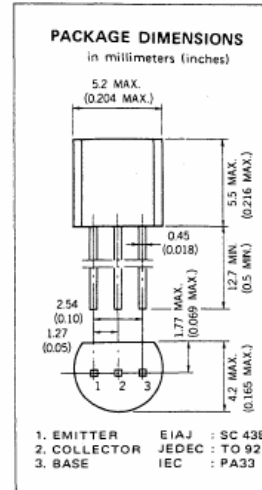
DESCRIPTION The 2SC945 is designed for use in driver stage of AF amplifier and low speed switching.

FEATURES

- High Voltage LVCEO : 50 V MIN.
- Excellent h_{FE} Linearity
 h_{FE1} (0.1 mA)/ h_{FE2} (1.0 mA) : 0.92 TYP.

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 250 mW
 Maximum Voltages and Currents (Ta = 25 °C)
 V_{CB0} Collector to Base Voltage 60 V
 V_{CEO} Collector to Emitter Voltage 50 V
 V_{EBO} Emitter to Base Voltage 5.0 V
 I_C Collector Current 100 mA
 I_B Base Current 20 mA



ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
h_{FE1}	DC Current Gain	50	185			V _{CE} =6.0 V, I _C =0.1 mA
h_{FE2}	DC Current Gain	90	200	600		V _{CE} =6.0 V, I _C =1.0 mA
NF	Noise Figure	0.8	15		dB	V _{CE} =6.0 V, I _C =0.1 mA, R _G =2.0 kΩ, f=1.0 kHz
f _T	Gain Bandwidth Product	150	250	450	MHz	V _{CE} =6.0 V, I _E =-10 mA
C _{ob}	Collector to Base Capacitance		3.0	4.0	pF	V _{CB} =6.0 V, I _E =0, f=1.0 MHz
I _{CBO}	Collector Cutoff Current			100	nA	V _{CB} =60 V, I _E =0
I _{EBO}	Emitter Cutoff Current			100	nA	V _{EB} =5.0 V, I _C =0
V _{BE}	Base to Emitter Voltage	0.55	0.62	0.65	V	V _{CE} =6.0 V, I _C =1.0 mA
V _{CE(sat)}	Collector Saturation Voltage		0.15	0.3	V	I _C =100 mA, I _B =10 mA
V _{BE(sat)}	Base Saturation Voltage		0.86	1.0	V	I _C =100 mA, I _B =10 mA

Classification of h_{FE2}

Rank	R	Q	P	K
Range	90 - 180	135 - 270	200 - 400	300 - 600

h_{FE2} Test Conditions : V_{CE} = 6.0 V, I_C = 1.0 mA