DATA SHEET

NEC

NPN SILICON TRANSISTOR
2SC945

NPN SILICON TRANSISTOR

DESCRIPTION

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

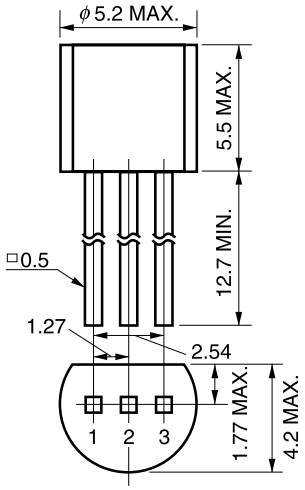
FEATURES

- High voltage
  LV_{CEO} = 50 V MIN.
- Excellent h_{FE} linearity
  h_{FE1} = (0.1 mA)/h_{FE2} (1.0 mA) = 0.92 TYP.

ABSOLUTE MAXIMUM RATINGS

Maximum Temperature		
Storage Temperature		–55 to +150°C
Junction Temperature		+150°C Maximum
Maximum Power Dissipation (T_A = 25°C)		
Total Power Dissipation		250 mW
Maximum Voltages and Currents (T_A = 25°C)		
V_{CBO}	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

★ PACKAGE DRAWING (Unit: mm)



1. Emitter
2. Collector
3. Base

EIAJ: SC43B
JEDEC: TO92
IEC: PA33

ELECTRICAL CHARACTERISTICS (T_A = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
DC Current Gain	h_{FE1}	V_{CE} = 6.0 V, I_C = 0.1 mA	50	185		
DC Current Gain	h_{FE2}	V_{CE} = 6.0 V, I_C = 1.0 mA	90	200	600	
Gain Bandwidth Product	f_T	V_{CE} = 6.0 V, I_E = –10 mA		250		MHz
Collector to Base Capacitance	C_{ob}	V_{CB} = 6.0 V, I_E = 0, f = 1.0 MHz		3.0		pF
Collector Cutoff Current	I_{CBO}	V_{CB} = 60 V, I_E = 0 A			100	nA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 5.0 V, I_C = 0 A			100	nA
Base to Emitter Voltage	V_{BE}	V_{CE} = 6.0 V, I_C = 1.0 mA	0.55	0.62	0.65	V
Collector Saturation Voltage	$V_{CE(sat)}$	I_C = 100 mA, I_B = 10 mA		0.15	0.3	V
Base Saturation Voltage	$V_{BE(sat)}$	I_C = 100 mA, I_B = 10 mA		0.86	1.0	V

CLASSIFICATION OF h_{FE2}

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

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

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The mark ★ shows major revised points.