NEC
ELECTRON DEVICE

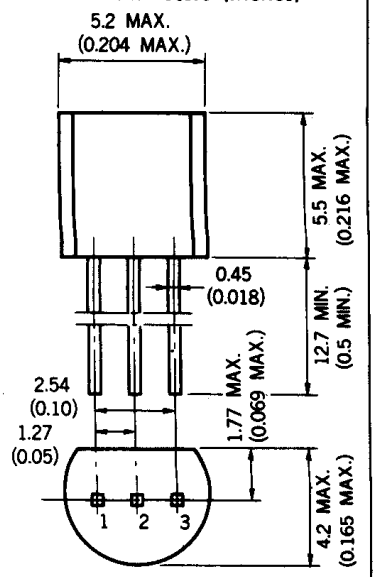
NPN SILICON TRANSISTOR
2SC1675

DESCRIPTION The 2SC1675 is designed for use in AM converter, AM/FM IF amplifier and local oscillator of AM/FM tuner.

FEATURES

- Small output capacitance (C_{ob} = 1.9 pF TYP.)
- Low noise figure (NF = 2.0 dB TYP. @1.0 MHz)

PACKAGE DIMENSIONS
in millimeters (inches)



1. EMITTER
2. COLLECTOR
3. BASE

EIAJ : SC-43A
JEDEC: TO-92
IEC : PA33

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_{CBO} Collector to Base Voltage . . . . . 50 V
- V_{CEO} Collector to Emitter Voltage . . . . . 30 V
- V_{EBO} Emitter to Base Voltage . . . . . 5.0 V
- I_C Collector Current . . . . . 30 mA
- I_B Base Current . . . . . 30 mA

ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
h_{FE}	DC Current Gain	40	90	180	–	V_{CE}=6.0 V, I_C=1.0 mA
C_{ob}	Output Capacitance		1.9	2.2	pF	V_{CB}=6.0 V, I_E=0, f=1.0 MHz
NF	Noise Figure		2.0	4.0	dB	V_{CE}=6.0 V, I_E=−1.0 mA, R_G=500 Ω, f=1.0 MHz
f_T	Gain Bandwidth Product	150	250		MHz	V_{CE}=6.0 V, I_E=−1.0 mA
$C_{c}\cdot r_{b'b}$	Collector to Base Time Constant		10	15	ps	V_{CE}=6.0 V, I_E=−10 mA, f=31.9 MHz
I_{CBO}	Collector Cutoff Current			100	nA	V_{CB}=50 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	0.65	0.70	0.75	V	V_{CE}=6.0 V, I_C=1.0 mA
$V_{CE(sat)}$	Collector Saturation Voltage		0.08	0.30	V	I_C=10 mA, I_B=1.0 mA

Classification of h_{FE}

Rank	M	L	K
Range	40−80	60−120	90−180

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