

NPN SILICON TRANSISTOR 2SC1940

DESCRIPTION The 2SC1940 is designed for use in driver stages of audio frequency amplifiers.

FEATURES • High total power dissipation and high breakdown voltage:
1.0 W at 25 °C ambient temperature/ $V_{CE0}=120$ V

ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures

Storage Temperature -55 to +150 °C
Junction Temperature +150 °C Maximum

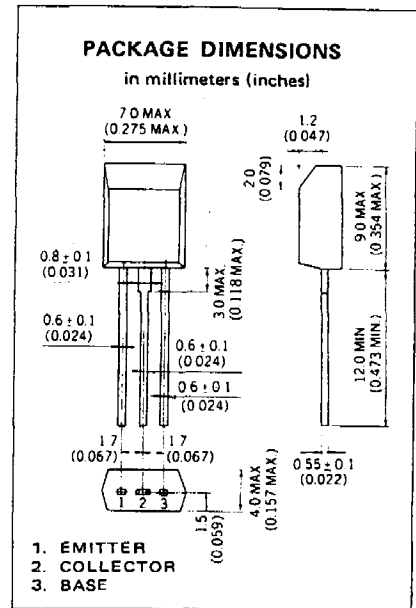
Maximum Power Dissipation ($T_a = 25$ °C)

Total Power Dissipation 1.0 W

Thermal Resistance(Junction to Ambient) 125 °C/W

Maximum Voltages and Currents ($T_a = 25$ °C)

V_{CBO} Collector to Base Voltage 120 V
 V_{CEO} Collector to Emitter Voltage 120 V
 V_{EBO} Emitter to Base Voltage 5.0 V
 I_C Collector Current 50 mA
 I_B Base Current 10 mA



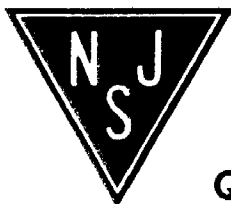
ELECTRICAL CHARACTERISTICS ($T_a = 25$ °C)

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
h_{FE1}	DC Current Gain	90	200	400	—	$V_{CE} = 10$ V, $I_C = 10$ mA
h_{FE2}	DC Current Gain	50	180		—	$V_{CE} = 10$ V, $I_C = 1.0$ mA
f_T	Gain Bandwidth Product	50	120		MHz	$V_{CE} = 10$ V, $I_E = -10$ mA
C_{ob}	Output Capacitance		2.3	3.0	pF	$V_{CB} = 10$ V, $I_E = 0$, $f = 1.0$ MHz
I_{CBO}	Collector Cutoff Current			100	nA	$V_{CB} = 120$ 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	650	685	750	mV	$V_{CE} = 10$ V, $I_C = 10$ mA
$V_{CE(sat)}$	Collector Saturation Voltage		0.07	0.6	V	$I_C = 20$ mA, $I_B = 2.0$ mA
$V_{BE(sat)}$	Base Saturation Voltage		0.75	1.0	V	$I_C = 20$ mA, $I_B = 2.0$ mA

Classification of h_{FE1}

Rank	M	L	K
Range	90 - 180	135 - 270	200 - 400

h_{FE1} Test Conditions: $V_{CE} = 10$ V, $I_C = 10$ mA



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TYPICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise noted)

