NPN SILICON HIGH FREQUENCY TRANSISTOR

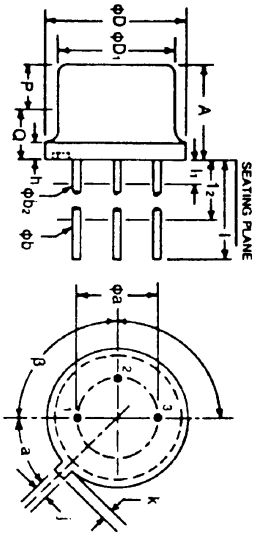
DESCRIPTION:

The **2N5943** is a High Frequency Transistor for General Purpose Amplifier Applications.

MAXIMUM RATINGS

I_C	400 mA
V_{CE}	30 V
P_{DISS}	1.0 W @ T_A = 25 °C 3.5 W @ T_C = 25 °C
T_J	-65 °C to +200 °C
T_{STG}	-65 °C to +200 °C
θ_{JC}	125 °C/W

PACKAGE STYLE TO-39



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN.	MAX.	MIN.	MAX.
Φa	0.190	0.210	4.83	5.33
A	0.240	0.260	6.10	6.60
Φb	0.016	0.021	0.406	0.533
Φb2	0.016	0.019	0.406	0.483
ΦD	0.350	0.370	8.89	9.40
ΦD1	0.315	0.335	8.00	8.51
h	0.009	0.125	0.229	3.18
j	0.028	0.034	0.711	0.864
k	0.029	0.040	0.737	1.02
l	0.500		12.70	
l1		0.050		1.27
l2	0.250		6.35	
P	0.100		2.54	
Q				
a	45° NOMINAL			
β	90° NOMINAL			

1 = EMITTER 2 = BASE
3 = COLLECTOR

CHARACTERISTICS T_C = 25 °C

SYMBOL	TEST CONDITIONS			MINIMUM	TYPICAL	MAXIMUM	UNITS
BV_{CEO}	I_C = 5.0 mA			30			V
BV_{CBO}	I_C = 100 µA			40			V
BV_{EBO}	I_E = 100 µA			3.5			V
I_{CEO}	V_{CE} = 20 V					50	µA
I_{CBO}	V_{CB} = 15 V					10	µA
h_{FE}	V_{CE} = 15 V	I_C = 50 mA		25		300	---
$V_{CE(SAT)}$	I_C = 100 mA	I_B = 10 mA				0.2	V
$V_{BE(SAT)}$	I_C = 100 mA	I_B = 10 mA				1.0	V
f_t	V_{CE} = 15 V	I_C = 25 mA I_C = 50 mA I_C = 100 mA	f = 200 MHz f = 200 MHz f = 200 MHz	1000 120 1000		2400	MHz
C_{cb}	V_{CB} = 30 V		f = 100 KHz	1.0		3.5	pF
C_{eb}	V_{CB} = 0.5 V		f = 100 KHz			15	pF
h_{fe}	V_{CE} = 15 V	I_C = 50 mA	f = 1.0 KHz	25		350	---
$r_{b'Cc}$	V_{CE} = 15 V	I_C = 50 mA	f = 31.8 MHz	2.0		20	pS
N_F	V_{CE} = 15 V	I_C = 50 mA	f = 200 MHz			8.0	dB
G_{pe}	V_{CC} = 15 V	I_C = 50 mA	f = 200 MHz	7.0			dB
I_M	V_{CC} = 15 V	I_C = 50 mA	V_{out} = +50 dbmV			-50	dB
X_M	V_{CC} = 15 V	I_C = 50 mA	V_{out} = +50 dbmV			-45	dB