

NPN SILICON HIGH FREQUENCY TRANSISTOR

DESCRIPTION:

The **2N3866A** is a High Frequency Transistor Designed for Amplifier and Oscillator Applications.

MAXIMUM RATINGS

I_C	400 mA
V_{CE}	30 V
P_{DISS}	5.0 W @ $T_C = 25^\circ C$
T_J	$-65^\circ C$ to $+200^\circ C$
T_{STG}	$-65^\circ C$ to $+200^\circ C$
θ_{JC}	$35^\circ C/W$

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
ϕb_2	0.016	0.019	0.406	0.483
ϕD	0.350	0.370	8.89	9.40
ϕD_1	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	
l_1		0.050		1.27
l_2	0.250		6.35	
P	0.100		2.54	
Q				
a	45° NOMINAL			
β	90° NOMINAL			

1 = Emitter 2 = Base
3 = Collector

CHARACTERISTICS $T_C = 25^\circ C$

SYMBOL	TEST CONDITIONS			MINIMUM	TYPICAL	MAXIMUM	UNITS
BV_{CEO}	$I_C = 5.0$ mA			30			V
BV_{CER}	$I_C = 5.0$ mA	$R_{BE} = 10 \Omega$		55			V
BV_{EBO}	$I_C = 100 \mu A$			3.5			V
I_{CEX}	$V_{CE} = 55$ V	$V_{BE} = -1.5$ V	$T_C = 200^\circ C$			100	μA
	$V_{CE} = 30$ V	$V_{BE} = -1.5$ V		500			
I_{CEO}	$V_{CE} = 28$ V					20	μA
I_{EBO}	$V_{EB} = 3.5$ V					100	μA
h_{FE}	$V_{CE} = 5.0$ V	$I_C = 50$ mA		25		200	---
		$I_C = 360$ mA		5.0			
$V_{CE(SAT)}$	$I_C = 100$ mA	$I_B = 20$ mA				1.0	V
f_t	$V_{CE} = 15$ V	$I_C = 50$ mA	$f = 200$ MHz	800			MHz
C_{OB}	$V_{CB} = 28$ V		$f = 1.0$ MHz			3.0	pF
G_{PE}	$V_{CC} = 28$ V	$P_{out} = 1.0$ W	$f = 400$ MHz	10			dB
η_c				45			%