

NPN SILICON RF POWER TRANSISTOR

DESCRIPTION:

The **2N6093** is a High Gain Linear RF Power Amplifier Used in Class A or Class B Applications With Individual Ballast Emitter Resistor and Built in Temperature Sensing Diode.

MAXIMUM RATINGS

I_C	10 A
V_{CE}	35 V
P_{DISS}	83.3 W @ $T_C = 75^\circ\text{C}$
T_J	-65°C to $+200^\circ\text{C}$
T_{STG}	-65°C to $+200^\circ\text{C}$
θ_{JC}	1.50°C/W

PACKAGE STYLE TO-217					
SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN.	MAX.	MIN.	MAX.	
A	0.295	0.325	7.50	8.25	—
B ₁	0.135	0.150	3.43	3.81	—
B ₂	0.235	0.250	5.97	6.35	—
B ₃	0.055	0.065	1.40	1.65	5
ϕ_B	0.020	0.025	0.508	0.635	4 Pin
ϕ_D	0.660	0.680	16.61	17.27	—
E	0.360	0.380	9.15	9.65	—
e	0.111	0.131	2.82	3.32	1
et	0.213	0.233	5.42	5.91	1
L	0.114	0.133	2.90	3.37	—
ϕ_M	0.220	0.249	5.59	6.23	—
N	0.420	0.460	10.67	11.68	—
N ₁	—	0.030	—	2.28	—
ϕ	—	0.015	—	0.381	—
ϕ_W	—	—	—	—	2

- 1 = Emitter & Diode Cathode
 2 = Collector
 3 = Base
 4 = Diode Anode

CHARACTERISTICS $T_C = 25^\circ\text{C}$

SYMBOL	TEST CONDITIONS		MINIMUM	TYPICAL	MAXIMUM	UNITS
BV_{CEO}	$I_C = 200\text{ mA}$		35			V
BV_{CES}	$I_C = 200\text{ mA}$		70			V
I_{CES}	$V_{CE} = 60\text{ V}$	$T_C = 55^\circ\text{C}$			30	mA
BV_{EBO}	$I_E = 20\text{ mA}$		3.5			V
h_{FE}	$V_{CE} = 6.0\text{ V}$	$I_C = 5.0\text{ A}$	20			---
V_F	$I_F = 10\text{ mA}$				0.8	V
h_{fe}	$V_{CE} = 28\text{ V}$	$I_C = 1.0\text{ A}$ $f = 50\text{ MHz}$	2.0			---
C_{OB}	$V_{CB} = 30\text{ V}$	$f = 1.0\text{ MHz}$			250	pF
P_{IE}	$V_{CC} = 28\text{ V}$ $f = 30\text{ MHz}$	$I_C = 20\text{ mA}$ $P_{OE} = 37.5\text{ W}$ $P_{OE} = 75.0\text{ W}$			1.88 3.75	W
G_{PE}	$V_{CC} = 28\text{ V}$	$I_C = 20\text{ mA}$ $P_{OE} = 75.0\text{ W}$	13			dB
η_C			40			%
IMD		$f = 30\text{ MHz}$			-30	dB