New Jersey Semi-Conductor Products, Inc.

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2N5031

RF & MICROWAVE DISCRETE LOW POWER TRANSISTORS

Features

- Silicon NPN, To-72 packaged VHF/UHF Transistor
- 1.2 GHz Current-Gain Bandwidth Product @ 5mA IC
- Maximum Unilateral Gain 12 dB (typ) @ 400 MHz



DESCRIPTION:

General Purpose small-signal, pre-driver, and driver, applications targeted for military and industrial equipment.

ABSOLUTE MAXIMUM RATINGS (Tcase = 25° C)

Symbol	Parameter	Value	Unit
VCEO	Collector-Emitter Voltage	10	Vdc
V _{CBO}	Collector-Base Voltage	15	Vdc
V _{EBO}	Emitter-Base Voltage	3.0	Vdc
lc	Collector Current	20	mA

Thermal Data

PD	Total Device Dissipation @ T _A = 25°C	200	mWatts
	Derate above 25°C	1.14	mW/ º C
			1



NJ Semi-Conductors reserves the right to change test conditions, parameters limits and package dimensions without notice information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

Quality Semi-Conductors

ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

(off)

Symbol	Test Conditions		Value		
		Min.	Тур.	Max.	Unit
BVCEO	Collector-Emitter Breakdown Voltage (IC = 1.0 mAdc, IB = 0)	10	_	-	Vdc
BVCBO	Collector-Base Breakdown Voltage (IC= 0.01 mAdc, IE=0)	15	-	-	Vdc
BVEBO	Emitter-Base Breakdown Voltage (IE = 0.01mAdc, IC = 0)	3.0	-	-	Vdc
ICBO	Collector Cutoff Current (VCE = 6.0 Vdc, IE = 0 Vdc)	-	1.0	10	nA
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HFE	DC Current Gain (IC = 1.0 mAdc, VCE = 6.0 Vdc)	25	-	300	•.

DYNAMIC

Symbol	Test Conditions		Value		
		Min.	Тур.	Max.	Unit
f _T	Current-Gain - Bandwidth Product (IC = 5.0 mAdc, VCE = 6 Vdc, f = 100 MHz)	1200	-	2500	MHz
CCB	Output Capacitance (IC = 1.0 mAdc, VCE = 6 Vdc, f ≈ 450 MHz)	-	2.5	-	dB

FUNCTIONAL

Symbol	Test Co	onditions	Value			
			Min.	Тур.	Max.	Unit
U max	Maximum Unilateral Gain (1)	IC = 1 mAdc, VCE = 6Vdc, f = 400 MHz	-	12	-	dB
MAG	Maximum Available Gain	IC = 1 mAdc, VCE = 6Vdc, f = 400 MHz	-	12.4	-	dB