



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

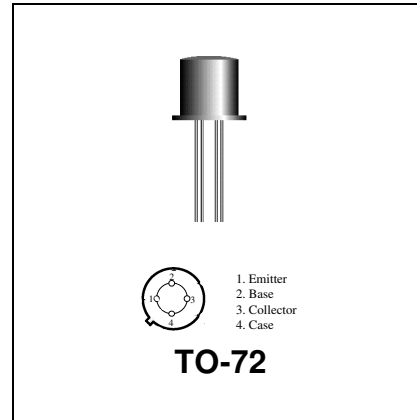


2N5031

**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:

The 2N5031 is a silicon NPN transistor, designed for general purpose small-signal, pre-driver, and driver, applications targeted for military and industrial equipment.

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C)

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

Thermal Data

P _D	Total Device Dissipation @ T _A = 25°C Derate above 25°C	200 1.14	mWatts mW/ °C
----------------	---	-------------	------------------

ELECTRICAL SPECIFICATIONS (Tcase = 25°C)
STATIC

(off)

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
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 = 0.01 mAdc, IC = 0)	3.0	-	-	Vdc
ICBO	Collector Cutoff Current (VCE = 6.0 Vdc, IE = 0 Vdc)	-	1.0	10	nA

(on)

HFE	DC Current Gain (IC = 1.0 mAdc, VCE = 6.0 Vdc)	25	-	300	-
-----	---	----	---	-----	---

DYNAMIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
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

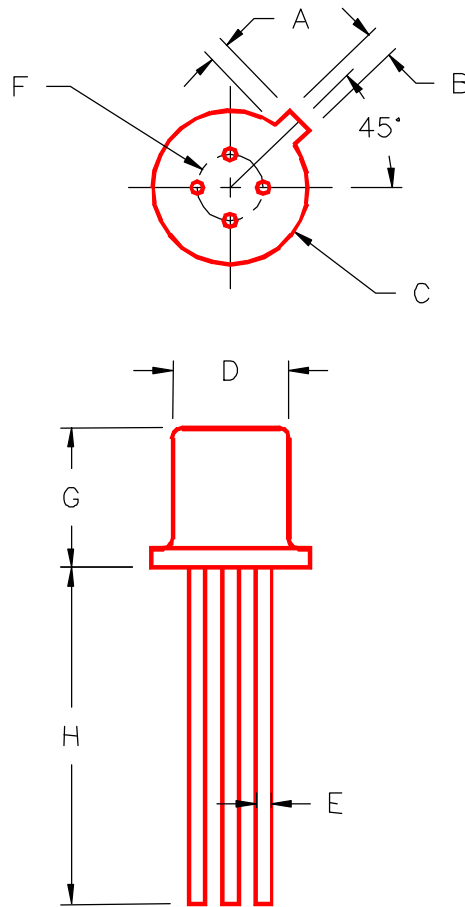
FUNCTIONAL

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
G _{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

Table 1. Common Emitter S-Parameters, @ VCE = 10 V, IC = 50 mA

f (MHz)	S11		S21		S12		S22	
	S11	$\angle \phi$	S21	$\angle \phi$	S12	$\angle \phi$	S22	$\angle \phi$
100	.610	-137	23.8	116	.026	46	.522	-78
200	.659	-161	13.2	98	.033	47	.351	-106
300	.671	-171	9.0	89	.040	51	.304	-120
400	.675	-178	6.8	83	.047	55	.292	-128
500	.677	176	5.5	77	.055	58	.293	-132
600	.678	172	4.6	72	.064	61	.299	-134
700	.677	168	4.0	68	.073	62	.306	-135
800	.679	184	3.5	64	.082	63	.314	-136
900	.678	160	3.1	60	.092	64	.322	-138
1000	.682	156	2.8	56	.102	65	.311	-139

PACKAGE STYLE M244



TO-72

	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.020/0,51	.048/1,22			
B	.036/0,91	.046/1,17			
C	.209/5,31	.230/5,84			
D	.178/4,52	.195/4,95			
E	.016/0,41	.020/0,51			
F	.100/2,54				
G	.170/4,32	.210/5,33			
H	.500/12,70				