

2N4261 Polarity PNP

Features:

- Fast switching small signal silicon transistor.
- Housed in a TO-72 case.



TO-72

Maximum Ratings

$T_C = 25^\circ\text{C}$ unless otherwise specified

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	15	V
Collector-Base Voltage	V_{CBO}	15	V
Emitter-Base Voltage	V_{EBO}	4.5	V
Collector Current, Continuous	I_C	30	mA
Operating Junction Temperature	T_J	-65 to +200	$^\circ\text{C}$
Storage Temperature	T_{STG}	-65 to +200	$^\circ\text{C}$

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Electrical Characteristics

$T_C = 25^\circ\text{C}$ unless otherwise specified

OFF CHARACTERISTICS	Symbol	Min	Max	Unit
Collector-Base Breakdown Voltage $I_C = 10 \mu\text{A}$	$V_{(BR)CBO}$	15	---	V
Collector-Emitter Breakdown Voltage $I_C = 10 \text{mA}$	$V_{(BR)CEO}$	15	---	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	4.5	---	V
Collector-Emitter Cutoff Current $V_{CE} = 10 \text{V}, V_{EB} = 0.4 \text{V}$	I_{CEX1}	---	50	nA
$V_{CE} = 10 \text{V}, V_{EB} = 2.0 \text{V}$	I_{CEX2}	---	5.0	nA
$V_{CE} = 10 \text{V}, V_{EB} = 2.0 \text{V}, T_A = +150^\circ\text{C}$	I_{CEX3}	---	5.0	μA
Base Cutoff Current $V_{CE} = 10 \text{V}, V_{EB} = 2.0 \text{V}$	I_{BEX}	---	5.0	nA
Emitter-Base Cutoff Current $V_{EB} = 4.5 \text{V}$	I_{EBO}	---	10	μA

ON CHARACTERISTICS	Symbol	Min	Max	Unit
Forward current Transfer Ratio $I_C = 1.0 \text{mA}, V_{CE} = 1.0 \text{V}$	h_{FE1}	25	---	---
$I_C = 10 \text{mA}, V_{CE} = 1.0 \text{V}$, pulsed	h_{FE2}	30	150	---
$I_C = 30 \text{mA}, V_{CE} = 1.0 \text{V}$ pulsed	h_{FE3}	20	---	---
$I_C = 10 \text{mA}, V_{CE} = 1.0 \text{V}, T_A = -55^\circ\text{C}$	h_{FE4}	15	---	---
Collector-Emitter Saturation Voltage $I_C = 1.0 \text{mA}, I_B = 0.1 \text{mA}$	$V_{CE(sat)1}$	---	0.15	V dc
$I_C = 10 \text{mA}, I_B = 1.0 \text{mA}$	$V_{CE(sat)2}$	---	0.35	V dc
Base-Emitter Saturation Voltage $V_{CE} = 1.0 \text{V}, I_C = 1.0 \text{mA}$	V_{BE1}	---	0.8	V dc
$V_{CE} = 1.0 \text{V}, I_C = 10 \text{mA}$	V_{BE2}	---	1.0	V dc

Small Signal Characteristics	Symbol	Min	Max	Unit
Magnitude of Common Emitter Small Signal Short Circuit Forward Current Transfer Ratio $V_{CE} = 4.0 \text{V}, I_C = 5.0 \text{mA}, f = 100 \text{MHz}$	$ h_{fe1} $	15	---	---
$V_{CE} = 10 \text{V}, I_C = 10 \text{mA}, f = 100 \text{MHz}$	$ h_{fe2} $	20	---	---
Open Circuit Output Capacitance $V_{CB} = 4.0 \text{V}, I_E = 0, 100 \text{kHz} < f < 1 \text{MHz}$	C_{OBO}	---	2.5	pF
Input Capacitance, Output Open Circuited $V_{EB} = 0.5 \text{V}, I_C = 0, 100 \text{kHz} < f < 1 \text{MHz}$	C_{IBO}	---	2.5	pF

Switching Characteristics	Symbol	Min	Max	Unit
Collector-Base Time Constant $V_{CE} = 4.0 \text{V}, I_C = 5.0 \text{mA}, f = 31.8 \text{MHz}$	$r_b' C_{C1}$	---	60	ps
Collector-Base Time Constant $V_{CE} = 4.0 \text{V}, I_C = 10 \text{mA}, f = 31.8 \text{MHz}$	$r_b' C_{C2}$	---	50	ps
Saturated Turn On Switching Time to 90% $V_{CC} = 17 \text{V}, 50 \text{ohm pulse generator}$	t_{ON}	---	2.5	ns
Saturated Turn Off Switching Time to 10% $V_{CC} = 17 \text{V}, 50 \text{ohm pulse generator}$	t_{OFF}	---	3.5	ns