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SILICON PLANAR PNP

2N 4034
2N 4035

GENERAL PURPOSE AMPLIFIERS AND SWITCHES

The 2N 4034 and 2N 4035 are silicon planar epitaxial PNP transistors in Jedec TO-18 metal case, primarily intended for small signal, low noise industrial applications.

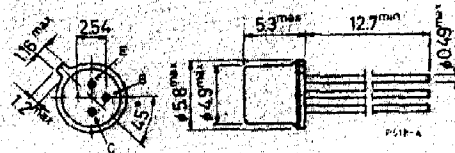
ABSOLUTE MAXIMUM RATINGS

V_{CBO}	Collector-base voltage ($I_E = 0$)	-40	V
V_{CEO}	Collector-emitter voltage ($I_B = 0$)	-40	V
V_{EBO}	Emitter-base voltage ($I_C = 0$)	-5	V
I_C	Collector current	-100	mA
P_{tot}	Total power dissipation at $T_{amb} \leq 25^\circ\text{C}$ at $T_{case} \leq 25^\circ\text{C}$	0.36	W
		1	W
T_{stg}, T_j	Storage and junction temperature	-65 to 200	$^\circ\text{C}$

MECHANICAL DATA

Dimensions in mm

Collector connected to case



(sim. to TO-18)



NJ Semi-Conductors reserves the right to change test conditions, parameter 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.



ELECTRICAL CHARACTERISTICS (continued)

Parameter	Test conditions	Min.	Typ.	Max.	Unit
h_{fe} Small signal current gain	$I_C = -1 \text{ mA}$ $f = 1 \text{ kHz}$ $V_{CE} = -10\text{V}$ for 2N 4034 for 2N 4035	50 150		300 450	— —
f_T Transition frequency	$I_C = -10 \text{ mA}$ $f = 100 \text{ MHz}$ $V_{CE} = -20\text{V}$ for 2N 4034 for 2N 4035	400 450			MHz MHz
C_{EBO} Emitter-base capacitance	$I_C = 0$ $f = 1 \text{ MHz}$ $V_{EB} = -0.5\text{V}$			5.5	pF
C_{CBO} Collector-base capacitance	$I_E = 0$ $f = 1 \text{ MHz}$ $V_{CB} = -10\text{V}$			3.5	pF
NF Noise figure	$I_C = -1 \text{ mA}$ $f = 100 \text{ MHz}$ $V_{CE} = -5\text{V}$ $R_g = 100\Omega$			6	dB
t_{on} Turn-on time	$I_C = -50 \text{ mA}$ $I_{B1} = -5 \text{ mA}$ $V_{CC} = -30\text{V}$			40	ns
t_{off} Turn-off time	$I_C = -50 \text{ mA}$ $I_{B1} = -I_{B2} = -5 \text{ mA}$ $V_{CC} = -30\text{V}$			150	ns
h_{ie} Input impedance	$I_C = -1 \text{ mA}$ $f = 1 \text{ kHz}$ $V_{CE} = -10\text{V}$ for 2N 4034 for 2N 4035	1 4		8 12	k Ω k Ω
h_{re} Reverse voltage ratio	$I_C = -1 \text{ mA}$ $f = 1 \text{ kHz}$ $V_{CE} = -10\text{V}$ for 2N 4034 for 2N 4035			3×10^{-4} 4×10^{-4}	— —
h_{oe} Output admittance	$I_C = -1 \text{ mA}$ $f = 1 \text{ kHz}$ $V_{CE} = -10\text{V}$ for 2N 4034 for 2N 4035	2 8		24 40	μS μS
$r_{db} C_{bc}$ Feedback time constant	$I_C = -10 \text{ mA}$ $f = 80 \text{ MHz}$ $V_{CE} = -20\text{V}$			40	ps

* Pulsed: pulse duration = 300 μs , duty cycle = 1%