

SEMICONDUCTOR TECHNICAL DATA

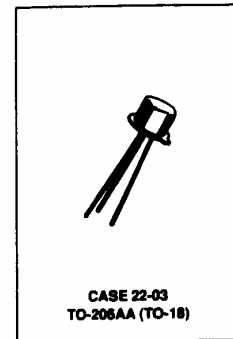
2N2484

NPN Silicon Small-Signal Transistor

...designed for general-purpose amplifier applications.

CRYSTALONCS
2805 Veterans Highway
Suite 14
Ronkonkoma, N.Y. 11776

MAXIMUM RATINGS			
Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V _{CEO}	60	V _{dc}
Collector-Base Voltage	V _{CBO}	60	V _{dc}
Emitter-Base Voltage	V _{EBO}	6.0	V _{dc}
Collector Current — Continuous	I _C	50	mAdc
Total Device Dissipation	P _T	360	mW
@ T _A = 25°C		2.06	mW/°C
Derate above 25°C		1.2	Watts
@ T _C = 25°C		6.85	mW/°C
Derate above 25°C			
Operating Junction and Storage Temperature Range	T _J , T _{stg}	-65 to 200	°C



ELECTRICAL CHARACTERISTICS (T _A = 25°C unless otherwise noted.)				
Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage ⁽¹⁾ (I _C = 10 mAdc, I _B = 0)	V _{(BR)CEO}	60	—	V _{dc}
Collector-Base Breakdown Voltage (I _C = 10 μAdc, I _E = 0)	V _{(BR)CBO}	60	—	V _{dc}
Emitter-Base Breakdown Voltage (I _E = 10 μAdc, I _C = 0)	V _{(BR)EBO}	6.0	—	V _{dc}
Collector Cutoff Current (V _{CB} = 45 Vdc, I _E = 0) (V _{CB} = 45 Vdc, I _E = 0, T _A = 150°C)	I _{CBO}	—	0.005 10	μAdc
Collector Cutoff Current (V _{CE} = 5.0 Vdc, I _E = 0)	I _{CEO}	—	0.002	μAdc
Collector Cutoff Current (V _{CE} = 45 Vdc, I _E = 0)	I _{CES}	—	0.005	μAdc
Emitter Cutoff Current (V _{BE} = 5.0 Vdc, I _C = 0)	I _{EBO}	—	0.002	μAdc

⁽¹⁾ Pulsed Pulse Width 250 to 350 μs, Duty Cycle 10 to 20%

(continued)

2N2484JAN SERIES

ELECTRICAL CHARACTERISTICS — continued (T _A = 25°C unless otherwise noted.)				
Characteristic	Symbol	Min	Max	Unit
ON CHARACTERISTICS				
DC Current Gain ⁽¹⁾ (I _C = 1.0 μAdc, V _{CE} = 5.0 Vdc) (I _C = 10 μAdc, V _{CE} = 5.0 Vdc) (I _C = 100 μAdc, V _{CE} = 5.0 Vdc) (I _C = 500 μAdc, V _{CE} = 5.0 Vdc) (I _C = 1.0 mAdc, V _{CE} = 5.0 Vdc) (I _C = 10 mAdc, V _{CE} = 5.0 Vdc) ⁽¹⁾ (I _C = 10 μAdc, V _{CE} = 5.0 Vdc, T _A = -55°C)	h _{FE}	45 200 225 250 250 225 35	— 500 675 800 800 800 —	—
Collector-Emitter Saturation Voltage (I _C = 1.0 mAdc, I _B = 0.1 mAdc)	V _{CE(sat)}	—	0.3	Vdc
Base-Emitter Saturation Voltage (I _C = 0.1 mAdc, V _{CE} = 5.0 Vdc)	V _{BE(sat)}	0.5	0.7	Vdc
SMALL-SIGNAL CHARACTERISTICS				
Collector-Base Capacitance (V _{CB} = 5.0 Vdc, I _E = 0, f = 0.1 to 1.0 MHz)	C _{ob0}	—	5.0	pF
Input Capacitance (V _{EB} = 0.5 Vdc, I _C = 0, f = 0.1 to 1.0 MHz)	C _{ib0}	—	6.0	pF
Small-Signal Current Gain (I _C = 1.0 mAdc, V _{CE} = 5.0 Vdc, f = 1.0 kHz)	h _{fe}	250	900	—
Small-Signal Current Transfer Ratio, Magnitude (I _C = 50 μAdc, V _{CE} = 5.0 Vdc, f = 5.0 MHz) (I _C = 500 μAdc, V _{CE} = 5.0 Vdc, f = 30 MHz)	h _{fe}	3.0 2.0	— 7.0	—
Input Impedance (I _C = 1.0 mAdc, V _{CE} = 5.0 Vdc, f = 1.0 kHz)	h _{ie}	3.5	24	kohms
Voltage Feedback Ratio (I _C = 1.0 mAdc, V _{CE} = 5.0 Vdc, f = 1.0 kHz)	h _{re}	—	8.0	X 10 ⁻⁴
Output Admittance (I _C = 1.0 mAdc, V _{CE} = 5.0 Vdc, f = 1.0 kHz)	h _{oe}	—	40	μmhos
Noise Figure (I _C = 10 μAdc, V _{CE} = 5.0 Vdc, R _G = 10 kohms) (f = 100 Hz) (f = 1.0 kHz) (f = 10 kHz)	NF	— — —	7.5 3.0 2.0	dB
Noise Bandwidth (10 Hz to 15.7 kHz) (I _C = 10 μAdc, V _{CE} = 5.0 Vdc, R _G = 10 kohms)	—	—	3.0	dB

(1) Pulsed. Pulse Width 250 to 350 μs. Duty Cycle 1.0 to 2.0%.

ASSURANCE TESTING (Pre/Post Burn-In)				
Burn-In Conditions: T _A = 25 ± 3°C, V _{CB} = 30 Vdc				
P _T = 360 mW				
Characteristics Tested	Symbol	Initial and End Point Limits		Unit
		Min	Max	
Collector Cutoff Current (V _{CB} = 45 Vdc)	I _{CBO}	—	5.0	nAdc
DC Current Gain ⁽¹⁾ (I _C = 500 μAdc, V _{CE} = 5.0 Vdc)	h _{FE}	250	800	—
Delta from Pre-Burn-In Measured Values				
Delta Collector Cutoff Current	ΔI _{CBO}	—	±100 or ±2.0 whichever is greater	% of Initial Value nAdc
Delta DC Current Gain ⁽¹⁾	Δh _{FE}	—	±25	% of Initial Value

(1) Pulsed. Pulse Width 250 to 350 μs. Duty Cycle 1.0 to 2.0%.

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