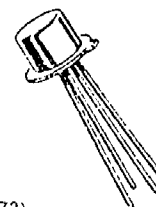


2N3287 (SILICON)

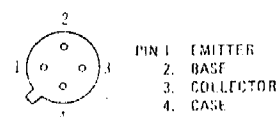
NPN silicon annular transistor for high-gain, low-noise amplifier, oscillator, mixer and frequency multiplier applications.

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector - Base Voltage	V_{CB}	40	Volts
Collector - Emitter Voltage	V_{CES}	40	Volts
Collector - Emitter Voltage	V_{CEO}	20	Volts
Emitter - Base Voltage	V_{EB}	3.0	Volts
Collector Current	I_C	50	mA
Power Dissipation at 25°C Case Above 25°C derate 1.71 mW/°C	P_D	300	mW
Power Dissipation at 25°C amb. Above 25°C derate 1.14 mW/°C	P_D	200	mW
Junction Temperature	T_J	+200	°C
Storage Temperature Range	T_{stg}	-65 to +200	°C



(TO-72)



ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = 10 \mu\text{A dc}, I_E = 0$	40	—	—	Vdc
Collector-Emitter Breakdown Voltage	BV_{CES}	$I_C = 10 \mu\text{A dc}, V_{BE} = 0$	40	—	—	Vdc
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = 2.0 \text{ mA dc}, I_B = 0$	20	—	—	Vdc
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = 10 \mu\text{A dc}, I_C = 0$	3.0	—	—	Vdc
Collector Cutoff Current	I_{CBO}	$V_{CB} = 15 \text{ Vdc}$ $V_{CB} = 15 \text{ Vdc}, T_A = 150^\circ\text{C}$	—	—	.010 3.0	$\mu\text{A dc}$
DC Forward Current Transfer Ratio	h_{FE}	$V_{CE} = 10 \text{ Vdc}, I_C = 2 \text{ mA dc}$	15	—	100	—
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 5 \text{ mA dc}, I_B = 0.5 \text{ mA dc}$	—	—	0.3	Vdc
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 5 \text{ mA dc}, I_B = 0.5 \text{ mA dc}$	—	—	0.9	Vdc
AC Current Gain	h_{fe}	$V_{CE} = 10 \text{ Vdc}, I_C = 2 \text{ mA dc}, f = 1 \text{ kHz}$	15	—	150	—
Output Capacitance	C_{ob}	$V_{CB} = 10 \text{ Vdc}, I_E = 0, f = 0.1 \text{ MHz (Note 1)}$	—	0.9	1.1	μF
Collector-Base Time Constant	$r_b' C_c$	$V_{CB} = 10 \text{ Vdc}, I_C = 2 \text{ mA dc}, f = 31.8 \text{ MHz}$	3.0	8.0	15	μs
Current Gain - Bandwidth Product	f_T	$V_{CE} = 10 \text{ Vdc}, I_C = 2 \text{ mA dc}$	350	600	1200	MHz
Maximum Frequency of Oscillation	f_{max}	$V_{CE} = 10 \text{ Vdc}, I_C = 2 \text{ mA dc}$	—	2000	—	MHz
Power Gain	G_e	$V_{CE} = 10 \text{ Vdc}, I_C = 2 \text{ mA dc}, f = 200 \text{ MHz}$	17	—	24	dB
Noise Figure	NF	$V_{CE} = 10 \text{ Vdc}, I_C = 2 \text{ mA dc}, f = 200 \text{ MHz}$	—	4.9	6.0	dB
Power Gain (AGC)	G_e	$V_{CE} = 5.0 \text{ Vdc}, I_C = 20 \text{ mA dc}, f = 200 \text{ MHz (Note 2)}$	—	—	0	dB