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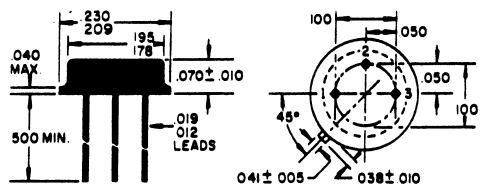
Quality Semi-Conductors

SILICON PLANEX* TRANSISTOR

2N3056A

. 2N3056A is a silicon NPN PLANEX* transistor, designed to provide a high breakdown voltage with a low saturation resistance. This device also features low leakage currents, low noise, low capacitance, high current capabilities and a typical gain-bandwidth product of 120 megacycles. These features make the transistor ideal for medium and high frequency amplifier and oscillator applications. CHANNEL-STOPPER• construction ends catastrophic failures due to channeling.



MECHANICAL DATA

CASE:
JEDEC TO-46

TERMINAL CONNECTIONS:
Lead 1 Emitter
Lead 2 Base
Lead 3 Collector (Electrically connected to case)

ELECTRICAL DATA

ABSOLUTE MAXIMUM RATINGS:

Collector to Base Voltage V_{CBO}	140 volts
Collector to Emitter Voltage V_{CEO}	80 volts
Emitter to Base Voltage V_{EBO}	7.0 volts
Total Device Dissipation	
@ Case Temperature 25° C	5.0 watts
@ Case Temperature 100° C	2.8 watts
@ Free Air Temperature 25° C	0.4 watts
Junction Temperature (Operating)	—65° C to +200° C
Storage Temperature	—65° C to +200° C

ELECTRICAL CHARACTERISTICS: @25° C (unless otherwise noted)

	SYM.	CONDITIONS	MIN.	MAX.	UNITS
Collector to Base Breakdown Voltage	BV_{CBO}	I_C=100 μa	140	....	volts
Collector to Emitter Breakdown Voltage	BV_{CEO}	I_C=30 ma ▲	80	....	volts
Emitter to Base Breakdown Voltage	BV_{EBO}	I_E=100 μa	7	....	volts
Collector Cutoff Current	I_{CBO1}	V_{CB}=90 v	....	10	na
	I_{CBO2}	V_{CB}=90 v, TA=+150° C	....	10	μa
Emitter Cutoff Current	I_{EBO}	V_{EB}=5 v	....	10	na
DC Current Gain	h_{FE1}	V_{CE}=10 v, I_C=0.1 ma	30	100	....
	h_{FE2}	V_{CE}=10 v, I_C=10 ma	40	120	....
	h_{FE3}	V_{CE}=10 v, I_C=150 ma	40	120	....
	h_{FE4}	V_{CE}=10 v, I_C=500 ma	30	100	....
	h_{FE5}	V_{CE}=10 v, I_C=1.0 a	15	....	....
Collector to Emitter Saturation Voltage	V_{CE} (sat) 1	I_C=150 ma, I_B=15 ma	....	0.20	volts
	V_{CE} (sat) 2	I_C=500 ma, I_B=50 ma	....	0.50	volts
Base to Emitter Saturation Voltage	V_{BE} (sat)	I_C=150 ma, I_B=15 ma	....	1.1	volts
Collector Capacitance	Cob	V_{CB}=10 v f=1mc	....	12	pf
Input Capacitance	Cib	V_{EB}=0.5 v f=1 mc	....	60	pf

▲ Measured with 300 μSec, 1% duty cycle pulse width