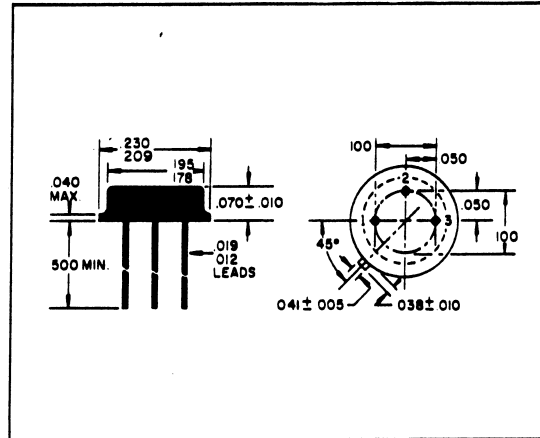


SILICON PLANEX*
TRANSISTOR

2N3056A

Quality Semi-Conductors

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}	$I_C=100 \mu a$	140	.....	volts
Collector to Emitter Breakdown Voltage	BV_{CEO}	$I_C=30 ma \blacktriangle$	80	.....	volts
Emitter to Base Breakdown Voltage	BV_{EBO}	$I_E=100 \mu a$	7	.....	volts
Collector Cutoff Current	I_{CBO1}	$V_{CB}=90 v$	.....	10	na
	I_{CBO2}	$V_{CB}=90 v, T_A=+150^\circ C$	.....	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	C_{ob}	$V_{CB}=10 v$ $f=1mc$	.....	12	pf
Input Capacitance	C_{ib}	$V_{EB}=0.5 v$ $f=1mc$	.....	60	pf

▲ Measured with 300 μ Sec. 1% duty cycle pulse width

