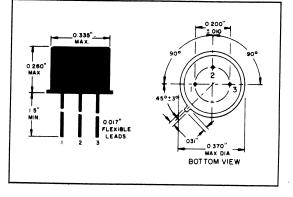
New Jersey Semi-Conductor Products, Inc.

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NPN SILICON PLANAR TRANSISTOR

2N497 2N498 2N656 2N657

This family of Raytheon types are silicon planar NPN transistors designed for medium power, fast switching applications and are recommended for servo amplifier, medium power amplifiers and magnetic core drivers.



MECHANICAL DATA

CASE: JEDEC TO-5 TERMINAL CONNECTIONS: Lead 1 Emitter Lead 2 Base Lead 3 Collector (Electrically connected to case)

ELECTRICAL DATA

ABSOLUTE MAXIMUM RATINGS:

	2N497	2N498	2N656	5 2N657	UNITS
Collector to Base Breakdown Voltage BV _{CBO}	60	100	60	100	volts
Collector to Emitter Breakdown Voltage BV _{CEO}	60	100	60	100	volts
Emitter to Base Breakdown Voltage $BV_{_{EBO}}$	8 .0	8.0	8.0	8.0	volts
Collector Dissipation at 25 $^{\circ}$ C (Case Temperature)	4.0	4.0	4.0	4.0 ·	watts
Collector Dissipation at 25° C (Ambient)	0.8	0.8	0.8	0 .8 [′]	watts
Junction Temperature (Operating)				—65°C to	+200° C
Storage Temperature					

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

		2N497, 2N498			2N656, 2N657			
SYM. CONDITIONS	CONDITIONS	MIN.	TYP.	MAX.	MIN.	TYP.	MAX. U	UNITS
I_{CBO}	Maximum rated voltage		0.1	10		0.1	10	μ A
I _{EBO}	Maximum rated voltage		.05	250		.05		μA
	V _{CB} =30 V	• • • •	.002	10			4	μ Λ
h _{FC}	$I_{c}=200 \text{ mA}, V_{c}=10 \text{ V}$	12	20	36	30			•
h _{iE}	·		50		1	4		••••
V _{CE}			2.0					
C _{ob}								
h _{fe}						3.0	· · · · ·	μμf
	I_{CBO} I_{EBO} I_{CBO} h_{FE} h_{iE} V_{CE} C_{ob}	$\begin{split} I_{CBO} & \text{Maximum rated voltage} \\ I_{EBO} & \text{Maximum rated voltage} \\ I_{CBO} & V_{CB}{=}30 \text{ V} \\ h_{FE} & I_{C}{=}200 \text{ mA}, \text{ V}_{C}{=}10 \text{ V} \text{ A} \\ h_{iE} & I_{B}{=}8.0 \text{ mA}, \text{ V}_{C}{=}10 \text{ V} \text{ A} \\ V_{CE} & I_{C}{=}200 \text{ mA}, \text{ I}_{B}{=}40 \text{ mA} \text{ A} \\ C_{ob} & V_{C}{=}10 \text{ V}, \text{ I}_{C}{=}0 \\ h_{fe} & V_{C}{=}10 \text{ V}, \text{ I}_{C}{=}50 \text{ mA}, \end{split}$	SYM. CONDITIONS MIN. I_{CBO} Maximum rated voltage I_{EBO} Maximum rated voltage I_{CBO} V_{CB} =30 V I_{CBO} V_{CB} =30 V h_{FE} I_{C} =200 mA, V_{C} =10 V \blacktriangle 12 h_{rE} I_{B} =8.0 mA, V_{C} =10 V \blacktriangle V_{CE} I_{C} =200 mA, I_{B} =40 mA \bigstar V_{CB} V_{C} =10 V, I_{C} =0 h_{re} V_{C} =10 V, I_{C} =50 mA,	SYM. CONDITIONS MIN. TYP. I_{CBO} Maximum rated voltage 0.1 I_{EBO} Maximum rated voltage I_{EBO} Maximum rated voltage I_{CBO} V_{CB} =30 V h_{CBO} V_{CB} =30 V h_{FE} I_{C} =200 mA, V_{C} =10 V \blacktriangle 12 20 h_{1E} I_{B} =8.0 mA, V_{C} =10 V \bigstar 50 V_{CE} I_{C} =200 mA, I_{B} =40 mA \bigstar 2.0 C_{ob} V_{C} =10 V, I_{C} =0 14 h_{fe} V_{C} =10 V, I_{C} =50 mA, 2.5	SYM. CONDITIONS MIN. TYP. MAX. I_{CBO} Maximum rated voltage 0.1 10 I_{EBO} Maximum rated voltage .05 250 I_{CBO} V_{CB} =30 V .002 10 h_{FE} I_{C} =200 mA, V_{C} =10 V \blacktriangle 12 20 .36 h_{FE} I_{B} =8.0 mA, V_{C} =10 V \bigstar 50 500 500 V_{CE} I_{C} =200 mA, I_{B} =40 mA \bigstar 2.0 5.0 C_{ob} V_{C} =10 V, I_{C} =0 14 h_{fe} V_{C} =10 V, I_{C} =50 mA, 2.5	SYM. CONDITIONS MIN. TYP. MAX. MIN. I_{CBO} Maximum rated voltage 0.1 10 I_{EBO} Maximum rated voltage .05 250 I_{CBO} V _{CB} =30 V .002 10 I_{CBO} V_{CB} =30 V .002 10 h_{FE} I_{C} =200 mA, V_{C} =10 V \blacktriangle 12 20 .36 30 h_{FE} I_{B} =8.0 mA, V_{C} =10 V \bigstar 50 500 V_{CE} I_{C} =200 mA, I_{B} =40 mA \bigstar 2.0 5.0 C_{ob} V_{C} =10 V, I_{C} =0 14 h_{fe} V_{C} =10 V, I_{C} =50 mA, 2.5	SYM. CONDITIONS MIN. TYP. MAX. MIN. TYP. I_{CBO} Maximum rated voltage 0.1 10 0.1 I_{EBO} Maximum rated voltage .05 250 .05 I_{CBO} V _{CB} =30 V .002 10 .002 h_{FE} $I_C=200$ mA, $V_C=10$ V \blacktriangle 12 20 .36 30 60 h_{1E} $I_B=8.0$ mA, $V_C=10$ V \bigstar 50 500 50 V_{CE} $I_C=200$ mA, $I_B=40$ mA \bigstar 2.0 5.0 2.0 C_{ob} $V_C=10$ V, $I_C=0$ 14 14 h_{fe} $V_C=10$ V, $I_C=50$ mA, 2.5 3.0	SYM. CONDITIONS MIN. TYP. MAX. MIN. TYP. MAX. I_{CBO} Maximum rated voltage 0.1 10 0.1 10 I_{EBO} Maximum rated voltage .05 250 .05 250 I_{CBO} V _{CB} =30 V .002 10 .002 10 h_{FE} $I_{C}=200$ mA, $V_{C}=10$ V \blacktriangle 12 20 .36 30 60 90 h_{1E} $I_{B}=8.0$ mA, $V_{C}=10$ V \bigstar 12 20 .36 30 60 90 h_{1E} $I_{B}=8.0$ mA, $V_{C}=10$ V \bigstar 50 500 500 500 V_{CE} $I_{C}=200$ mA, $I_{B}=40$ mA \bigstar 2.0 5.0 2.0 5.0 C_{ob} $V_{C}=10$ V, $I_{C}=0$ 14 14 h_{fe} $V_{C}=10$ V, $I_{C}=50$ mA, 2.5 3.0