

2SD2497

Silicon NPN Epitaxial

Application

Low frequency power amplifier

Features

- Low saturation voltage
 $V_{CE(sat)} \leq 0.3\text{ V}$
- Large current capacitance
 $I_C = 5\text{ A}$

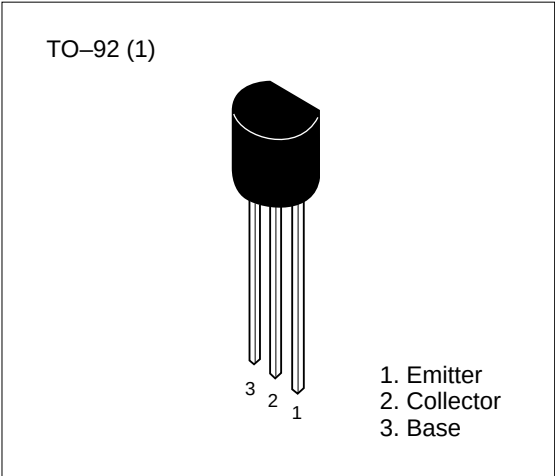


Table 1 Absolute Maximum Ratings (Ta = 25°C)

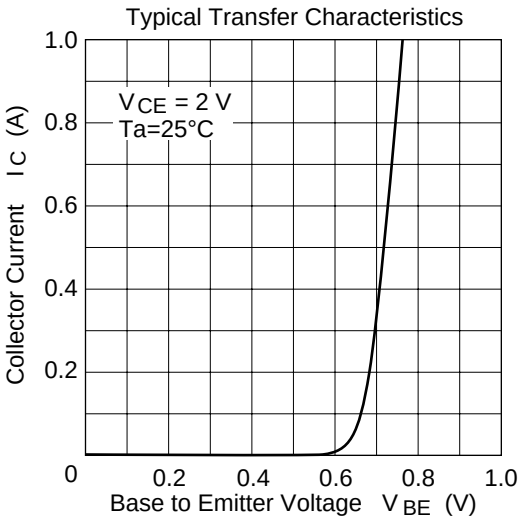
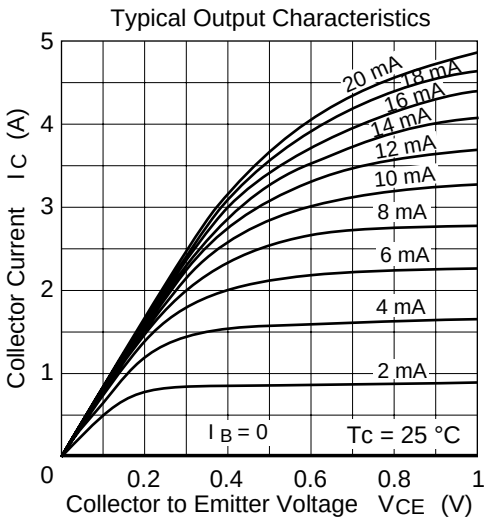
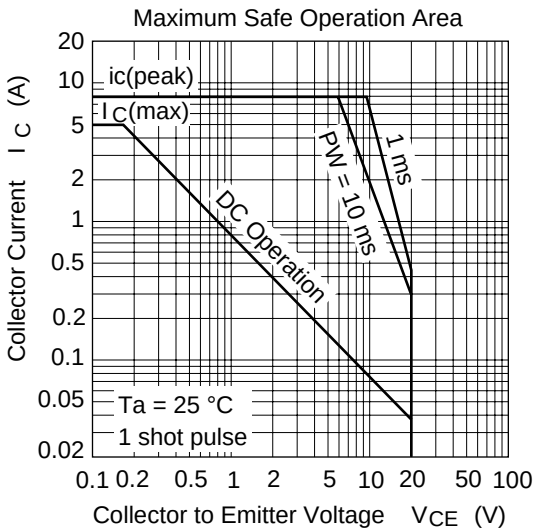
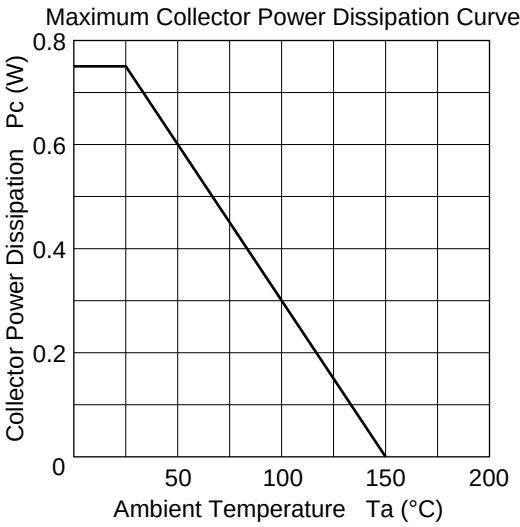
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	40	V
Collector to emitter voltage	V_{CEO}	20	V
Emitter to base voltage	V_{EBO}	7	V
Collector current	I_C	5	A
Collector peak current	$i_{c(peak)}^*$	8	A
Collector power dissipation	P_C	0.75	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

Note: * $T_c = 25^\circ\text{C}$, $PW \leq 100\mu\text{s}$, Duty cycle $\leq 1\%$

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Table 2 Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	40	—	—	V	$I_C = 10\ \mu\text{A}$, $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	20	—	—	V	$I_C = 1\ \text{mA}$, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	7	—	—	V	$I_E = 10\ \mu\text{A}$, $I_C = 0$
Collector to base cutoff current	I_{CBO}	—	—	0.1	μA	$V_{CB} = 20\ \text{V}$, $I_E = 0$
Collector to emitter cutoff current	I_{CEO}	—	—	1	μA	$V_{CE} = 10\ \text{V}$, $R_{BE} = \infty$
Emitter to base cutoff current	I_{EBO}	—	—	0.1	μA	$V_{EB} = 5\ \text{V}$, $I_C = 0$
DC current transfer ratio	h_{FE1}^*	250	—	600		$V_{CE} = 2\ \text{V}$, $I_C = 0.5\ \text{A}$
DC current transfer ratio	h_{FE2}	100	—	—		$V_{CE} = 2\ \text{V}$, $I_C = 5\ \text{A}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	0.3	V	$I_C = 3\ \text{A}$, $I_B = 0.1\ \text{A}$
Gain bandwidth product	f_T	—	230	—	MHz	$V_{CE} = 6\ \text{V}$, $I_C = 50\ \text{mA}$
Collector output capacitance	C_{ob}	—	30	—	pF	$V_{CB} = 10\ \text{V}$, $I_E = 0$, $f = 1\ \text{MHz}$



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