
2SD1366

Silicon NPN Epitaxial

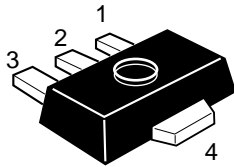
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Application

Low frequency power amplifier

Outline

UPAK



1. Base
2. Collector
3. Emitter
4. Collector (Flange)

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	25	V
Collector to emitter voltage	V_{CEO}	20	V
Emitter to base voltage	V_{EBO}	5	V
Collector current	I_{C}	1	A
Collector peak current	$i_{\text{C(peak)}}^{*1}$	1.5	A
Collector power dissipation	P_{C}^{*2}	1	W
Junction temperature	T_{j}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Notes: 1. $PW \leq 10$ ms, Duty cycle $\leq 20\%$.

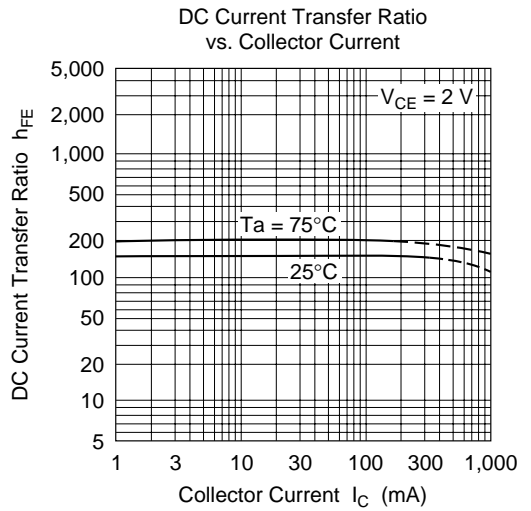
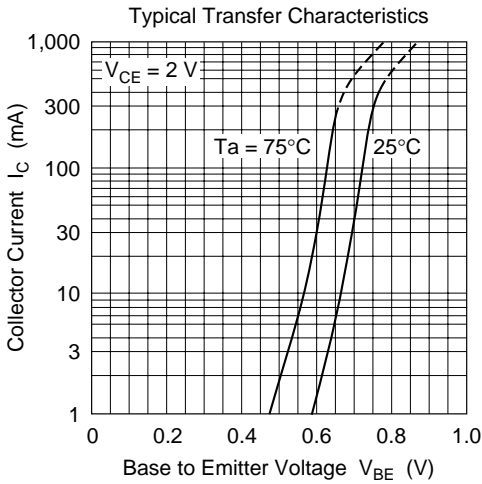
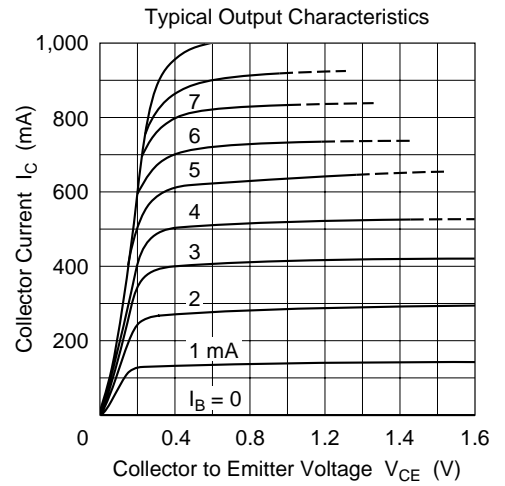
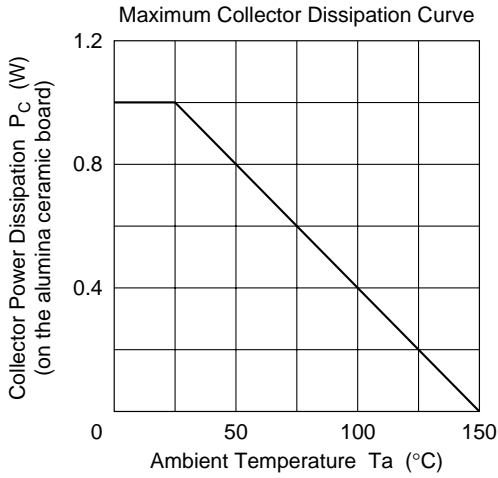
2. Value on the alumina ceramic board ($12.5 \times 20 \times 0.7$ mm)

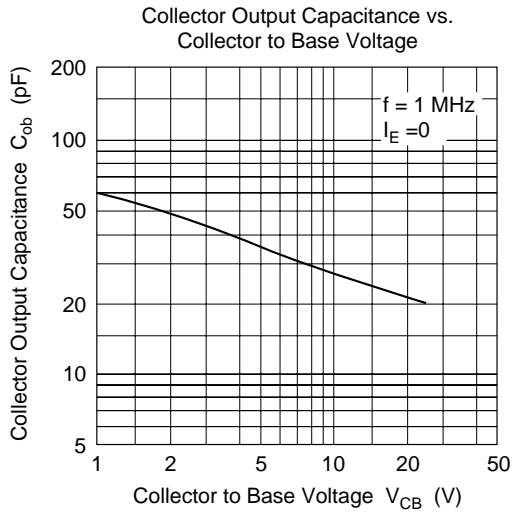
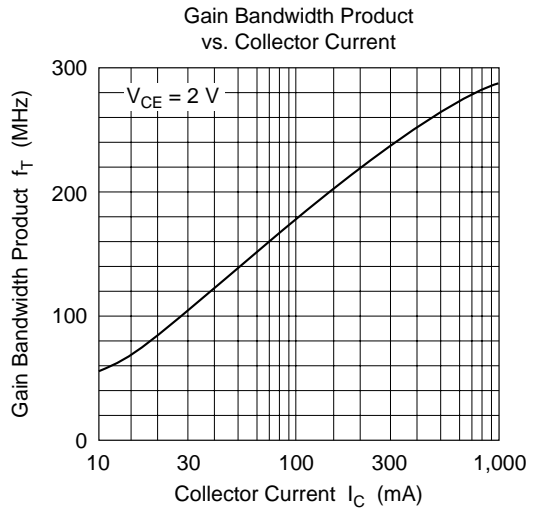
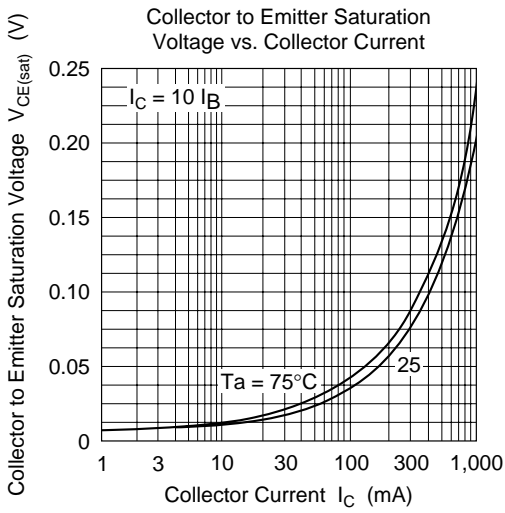
Electrical Characteristics ($T_a = 25^\circ\text{C}$)

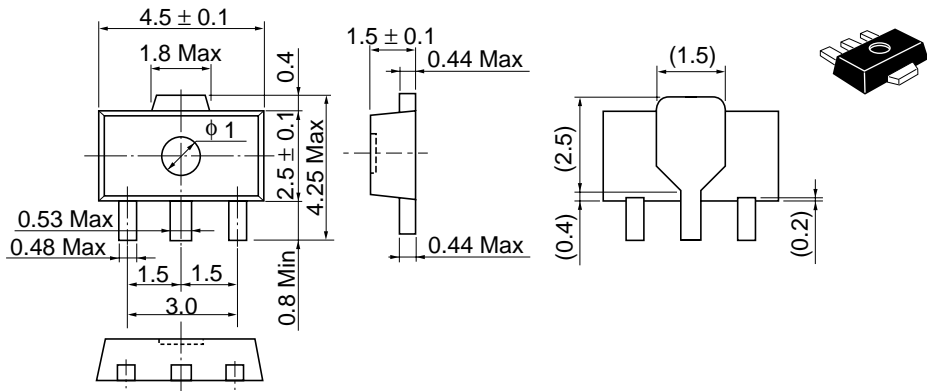
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	25	—	—	V	$I_{\text{C}} = 10 \mu\text{A}$, $I_{\text{E}} = 0$
Collector to emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	20	—	—	V	$I_{\text{C}} = 1$ mA, $R_{\text{BE}} = \infty$
Emitter to base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	5	—	—	V	$I_{\text{E}} = 10 \mu\text{A}$, $I_{\text{C}} = 0$
Collector cutoff current	I_{CBO}	—	—	0.1	μA	$V_{\text{CB}} = 20$ V, $I_{\text{E}} = 0$
Emitter cutoff current	I_{EBO}	—	—	0.1	μA	$V_{\text{EB}} = 4$ V, $I_{\text{C}} = 0$
DC current transfer ratio	h_{FE}^{*1}	85	—	240		$V_{\text{CE}} = 2$ V, $I_{\text{C}} = 0.5$ A, Pulse
Collector to emitter saturation voltage	$V_{\text{CE(sat)}}$	—	0.15	0.3	V	$I_{\text{C}} = 0.8$ A, $I_{\text{B}} = 0.08$ A, Pulse
Base to emitter saturation voltage	$V_{\text{BE(sat)}}$	—	0.9	1.0	V	$I_{\text{C}} = 0.8$ A, $I_{\text{B}} = 0.08$ A, Pulse
Gain bandwidth product	f_{T}	—	240	—	MHz	$V_{\text{CE}} = 2$ V, $I_{\text{C}} = 0.5$ A, Pulse
Collector output capacitance	C_{ob}	—	22	—	pF	$V_{\text{CB}} = 10$ V, $I_{\text{E}} = 0$, $f = 1$ MHz

Note: 1. The 2SD1366 is grouped by h_{FE} as follows.

Mark	AA	AB
h_{FE}	85 to 170	120 to 240







Hitachi Code	UPAK
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.050 g

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