

2SD2533

Silicon NPN Epitaxial

Application

Low frequency power amplifier

Features

- Low saturation voltage
 $V_{CE(sat)} \leq 0.2\text{ V}$
- Large current capacitance.
 $I_C = 2\text{ A}$

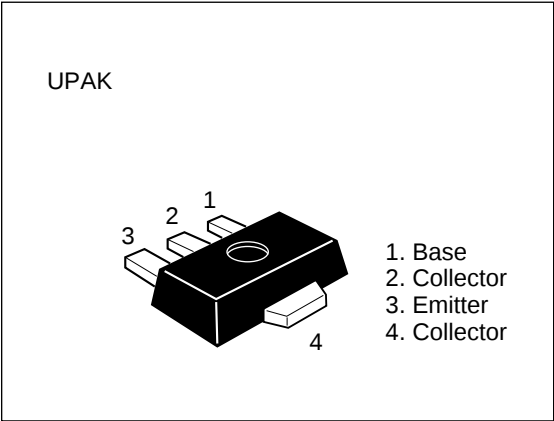


Table 1 Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	80	V
Collector to emitter voltage	V_{CEO}	80	V
Emitter to base voltage	V_{EBO}	6	V
Collector current	I_C	2	A
Collector peak current	$i_{c(peak)^*}$	3	A
Collector power dissipation	P_C^{**}	1	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

* $PW \leq 10\text{ ms}$, duty cycle $\leq 20\%$

** When using the alumina ceramic board (12.5 x 20 x 0.7 mm)

Note: Marking is "KS"

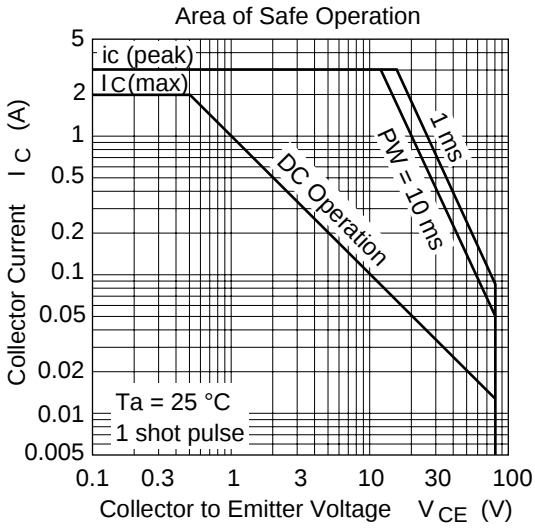
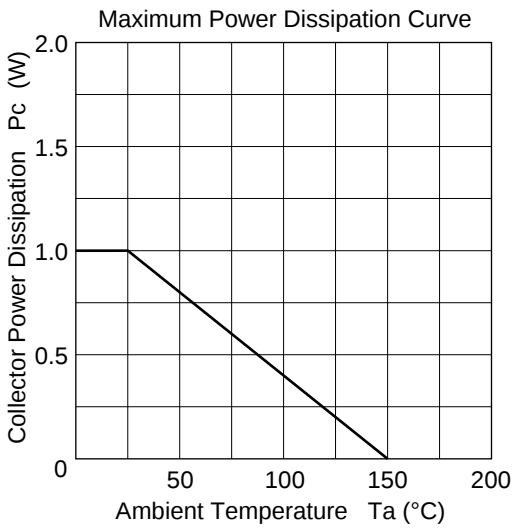
Attention: This device is very sensitive to electro static discharge.
It is recommended to adopt appropriate cautions when handling this transistor.

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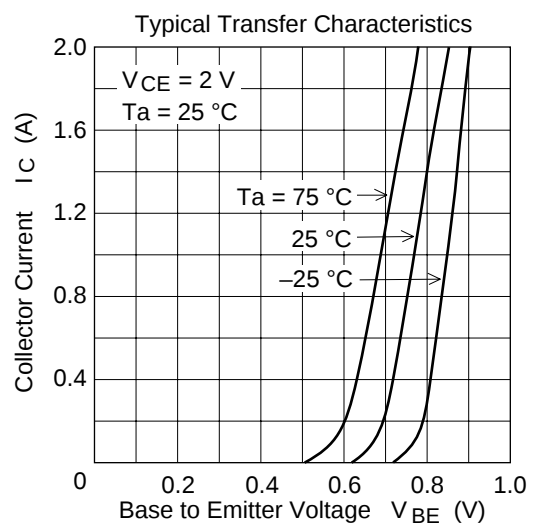
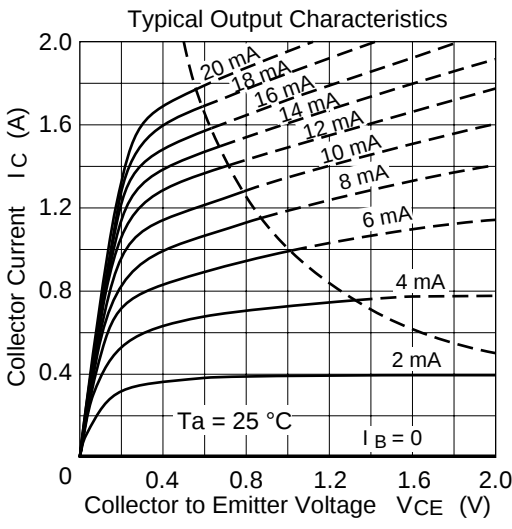
Table 2 Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	80	—	—	V	$I_C = 10 \mu A$, $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	80	—	—	V	$I_C = 1 mA$, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	6	—	—	V	$I_E = 10 \mu A$, $I_C = 0$
Collector to base cutoff current	I_{CBO}	—	—	1	μA	$V_{CB} = 65 V$, $I_E = 0$
Collector to emitter cutoff current	I_{CEO}	—	—	5	μA	$V_{CE} = 65 V$, $R_{BE} = \infty$
Emitter to base cutoff current	I_{EBO}	—	—	1	μA	$V_{EB} = 5 V$, $I_C = 0$
DC current transfer ratio	h_{FE1}^*	120	—	300		$V_{CE} = 2 V$, $I_C = 0.5 A$
DC current transfer ratio	h_{FE2}^*	40	—	—		$V_{CE} = 2 V$, $I_C = 1.5 A$
Collector to emitter saturation voltage	$V_{CE(sat)}^*$	—	0.11	0.2	V	$I_C = 1 A$, $I_B = 50 mA$
Base to emitter saturation voltage	$V_{BE(sat)}^*$	—	0.85	1.2	V	$I_C = 1 A$, $I_B = 50 mA$
Gain bandwidth product	f_T	—	160	—	MHz	$V_{CE} = 2 V$, $I_C = 50 mA$
Collector output capacitance	C_{ob}	—	20	—	pF	$V_{CB} = 10 V$, $I_E = 0$, $f = 1 MHz$

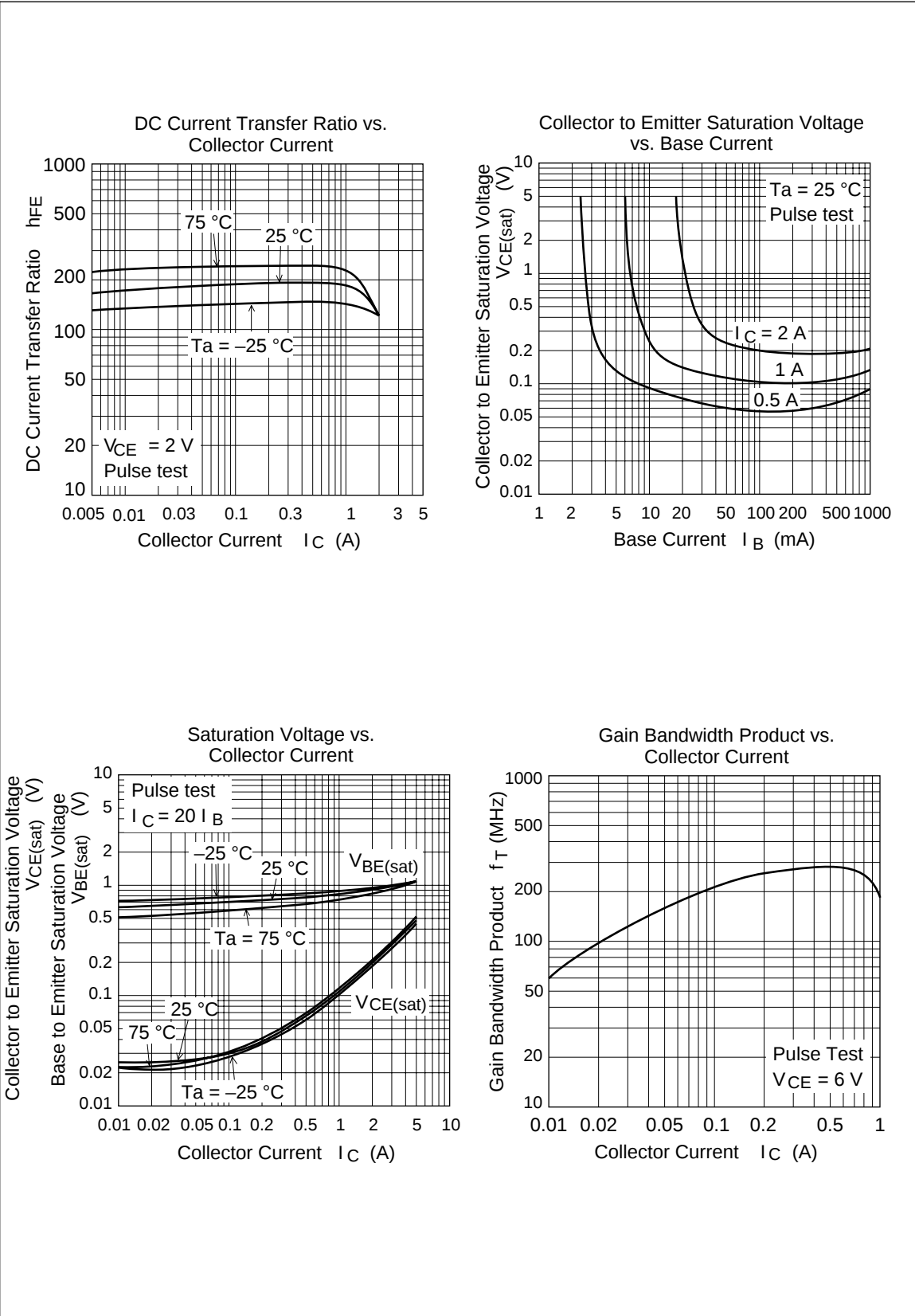
* Pulse Test

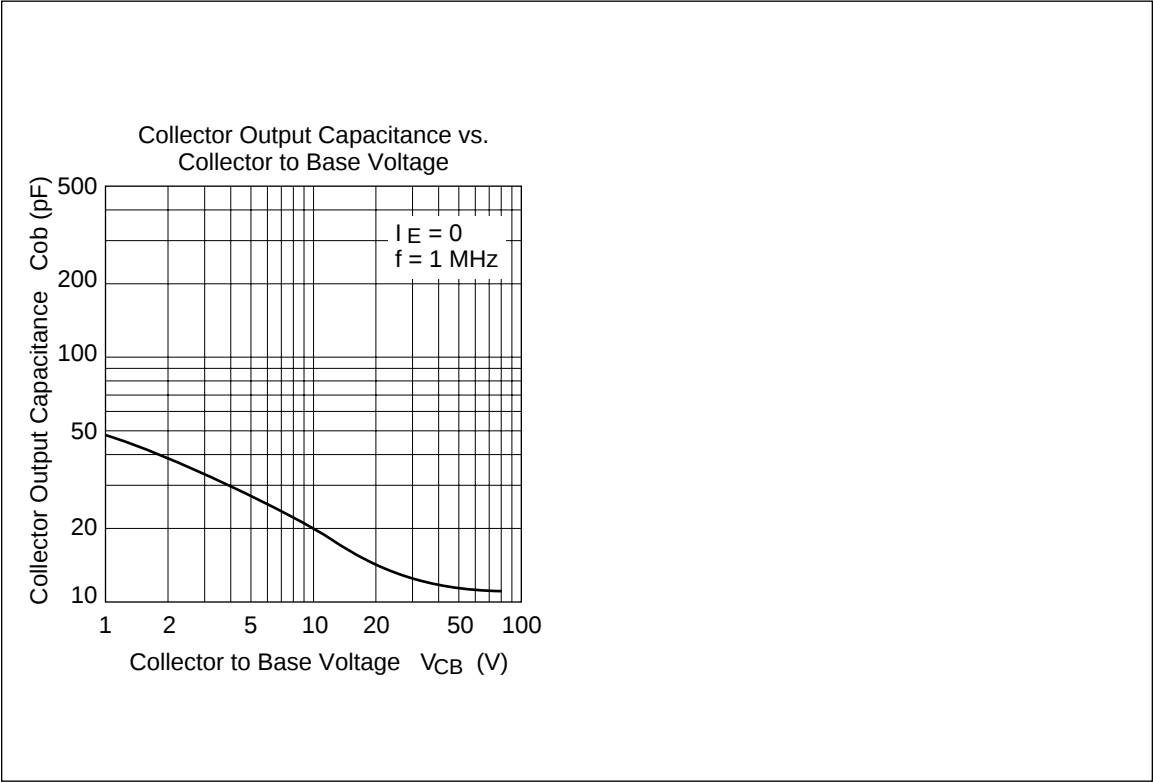


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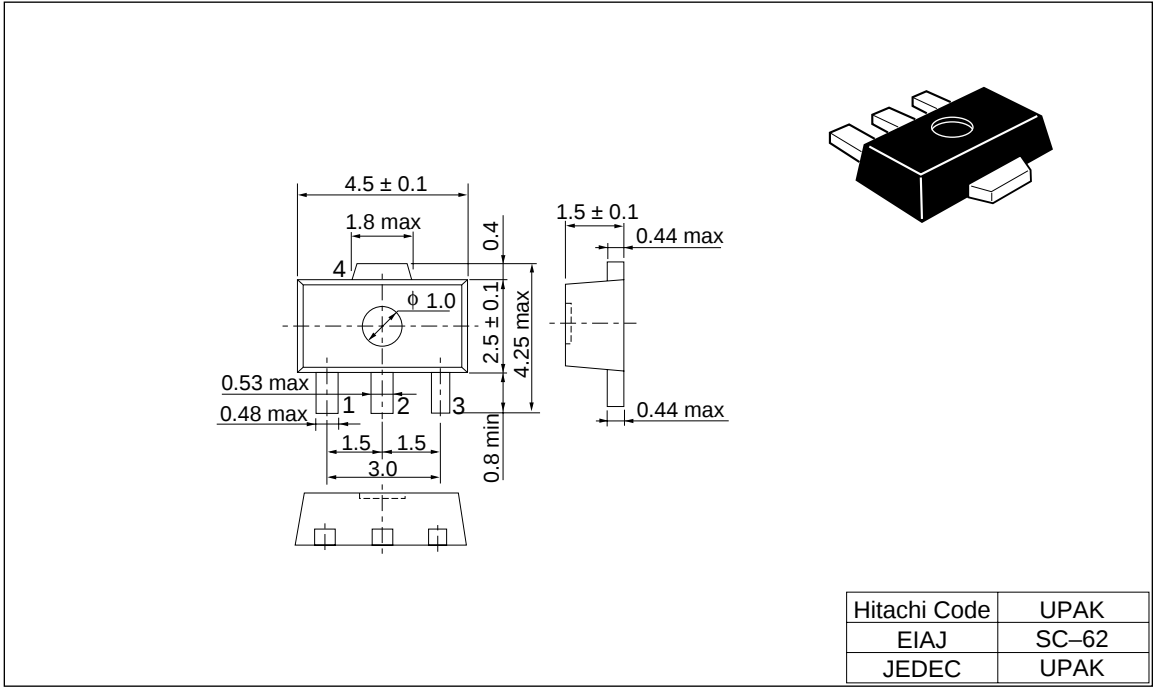
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Package Dimensions

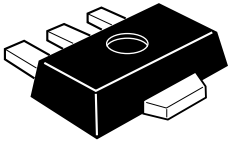
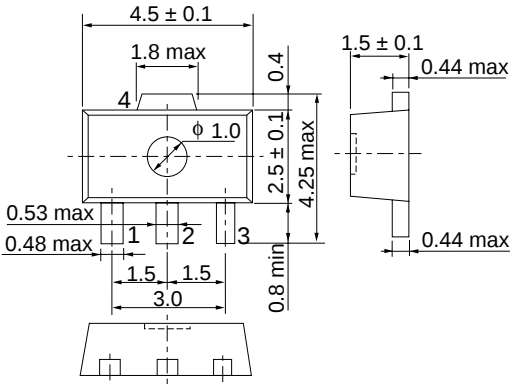
Unit : mm



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Package Dimensions

Unit : mm



Hitachi Code	UPAK
EIAJ	SC-62
JEDEC	UPAK