
2SC3836

Silicon NPN Epitaxial

HITACHI

ADE-208-1092 (Z)
1st. Edition
Mar. 2001

Application

Low frequency amplifier, switching

Outline

SPAK



1. Emitter
2. Collector
3. Base

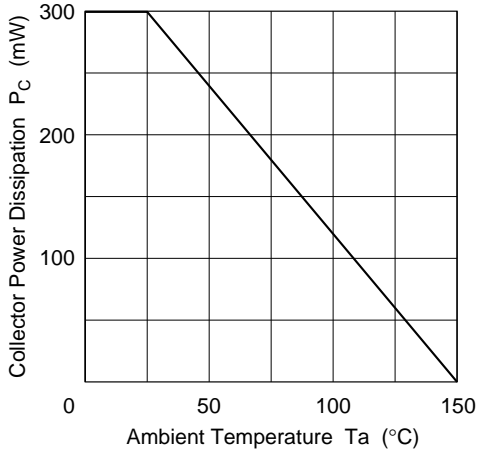
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	60	V
Collector to emitter voltage	V_{CEO}	50	V
Emitter to base voltage	V_{EBO}	15	V
Collector current	I_{C}	300	mA
Collector power dissipation	P_{C}	300	mW
Junction temperature	T_{j}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

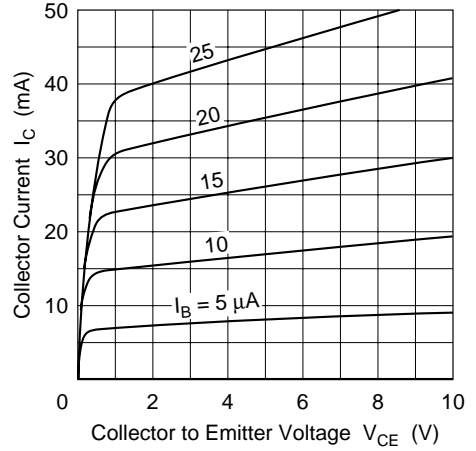
Electrical Characteristics ($T_a = 25^\circ\text{C}$)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	60	—	—	V	$I_{\text{C}} = 10 \mu\text{A}$, $I_{\text{E}} = 0$
Collector to emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	50	—	—	V	$I_{\text{C}} = 1 \text{ mA}$, $R_{\text{BE}} = \infty$
Emitter to base breakdown voltage	$V_{(\text{BE})\text{EBO}}$	15	—	—	V	$I_{\text{E}} = 10 \mu\text{A}$, $I_{\text{C}} = 0$
Collector cutoff current	I_{CBO}	—	—	1	μA	$V_{\text{CB}} = 50 \text{ V}$, $I_{\text{E}} = 0$
Base to emitter voltage	V_{BE}	—	—	0.75	V	$V_{\text{CE}} = 6 \text{ V}$, $I_{\text{C}} = 1 \text{ mA}$
DC current transfer ratio	h_{FE1}	800	—	2000		$V_{\text{CE}} = 6 \text{ V}$, $I_{\text{C}} = 100 \text{ mA}$ (pulse test)
	h_{FE2}	500	—	—		$V_{\text{CE}} = 6 \text{ V}$, $I_{\text{C}} = 1 \text{ mA}$
Collector to emitter saturation voltage	$V_{\text{CE}(\text{sat})}$	—	—	0.3	V	$I_{\text{C}} = 300 \text{ mA}$, $I_{\text{B}} = 30 \text{ mA}$ (pulse test)

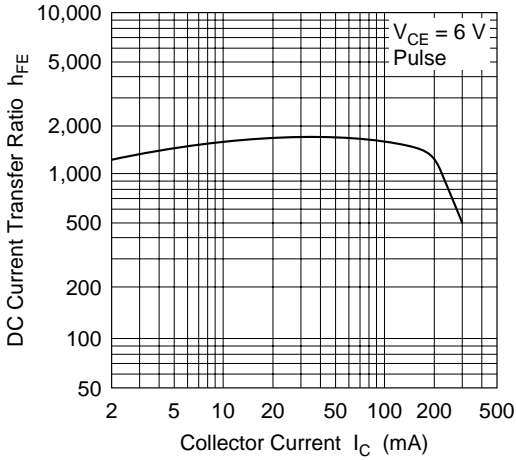
Maximum Collector Dissipation Curve



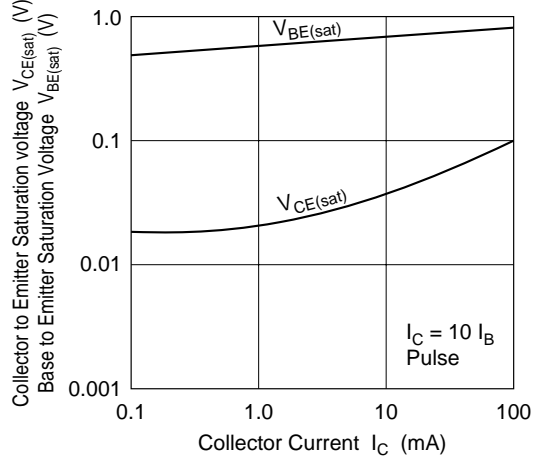
Typical Output Characteristics



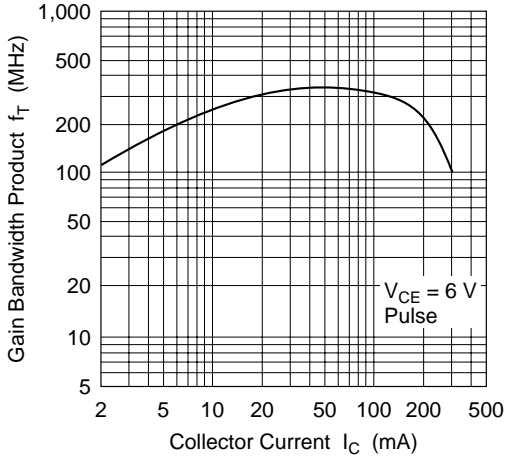
DC Current Transfer Ratio vs. Collector Current



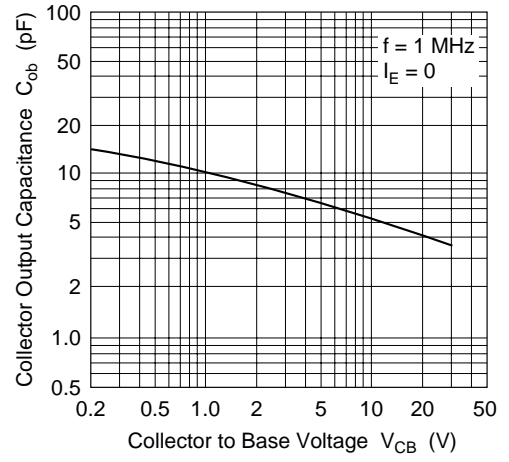
Saturation Voltage vs. Collector Current



Gain Bandwidth Product vs. Collector Current

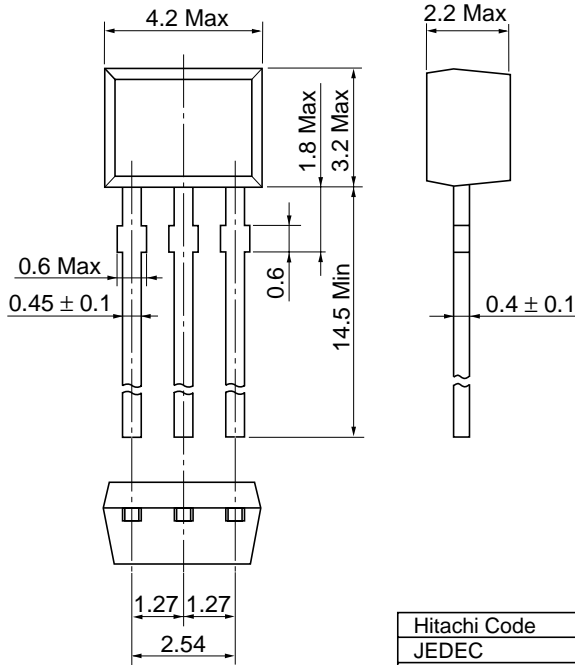


Collector Output Capacitance vs. Collector to Base Voltage



Package Dimensions

As of January, 2001
Unit: mm



Hitachi Code	SPAK
JEDEC	—
EIAJ	—
Mass (reference value)	0.10 g

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