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# 2SC3836

Silicon NPN Epitaxial

# HITACHI

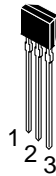
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## Application

Low frequency amplifier, switching

## Outline

SPAK



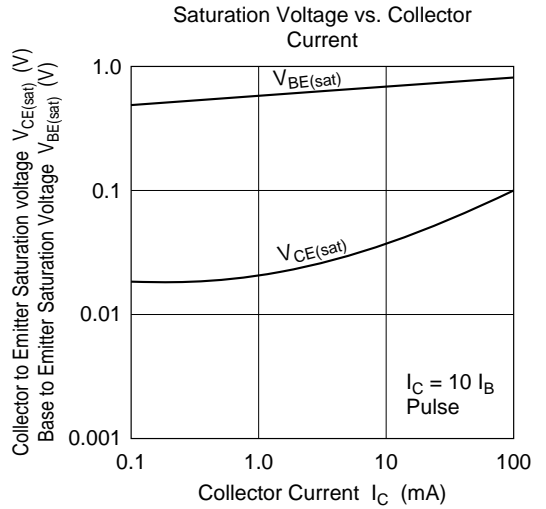
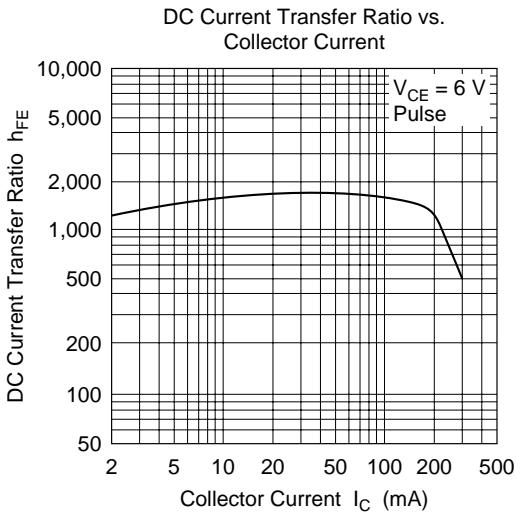
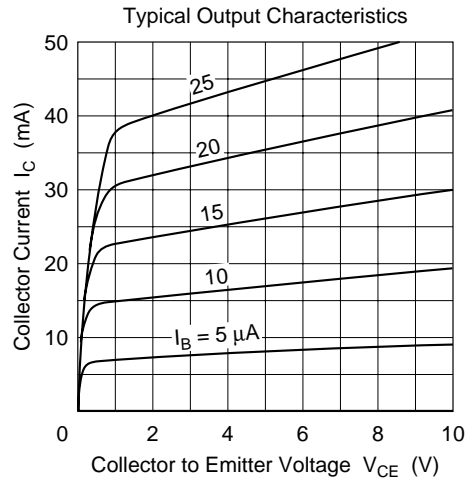
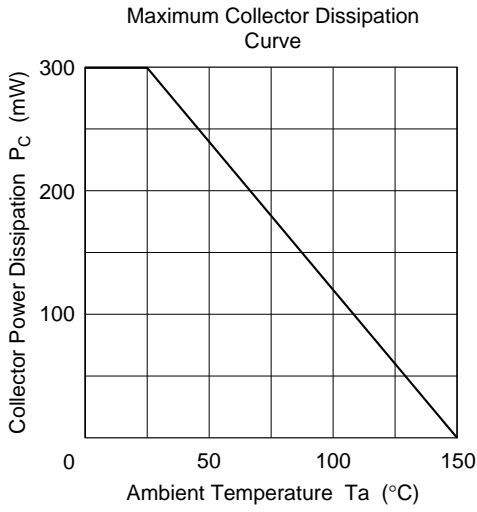
1. Emitter
2. Collector
3. Base

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

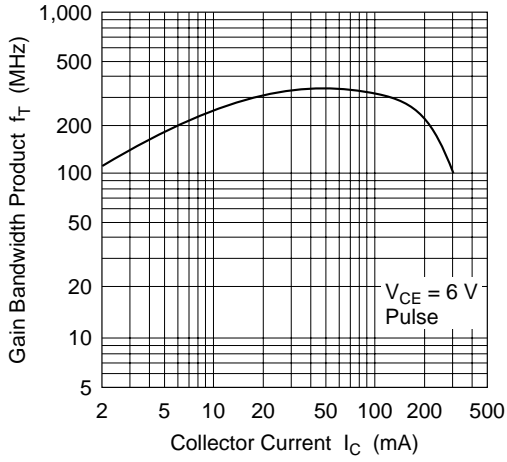
Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{\text{CBO}}$	60	V
Collector to emitter voltage	$V_{\text{CEO}}$	50	V
Emitter to base voltage	$V_{\text{EBO}}$	15	V
Collector current	$I_{\text{C}}$	300	mA
Collector power dissipation	$P_{\text{C}}$	300	mW
Junction temperature	$T_{\text{j}}$	150	$^\circ\text{C}$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

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

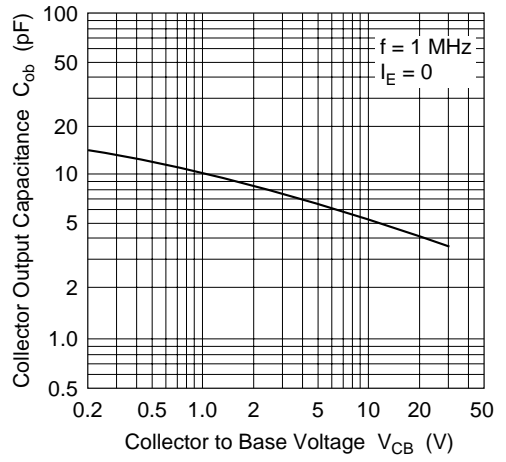
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	60	—	—	V	$I_{\text{C}} = 10 \mu\text{A}$ , $I_{\text{E}} = 0$
Collector to emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	50	—	—	V	$I_{\text{C}} = 1 \text{ mA}$ , $R_{\text{BE}} = \infty$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



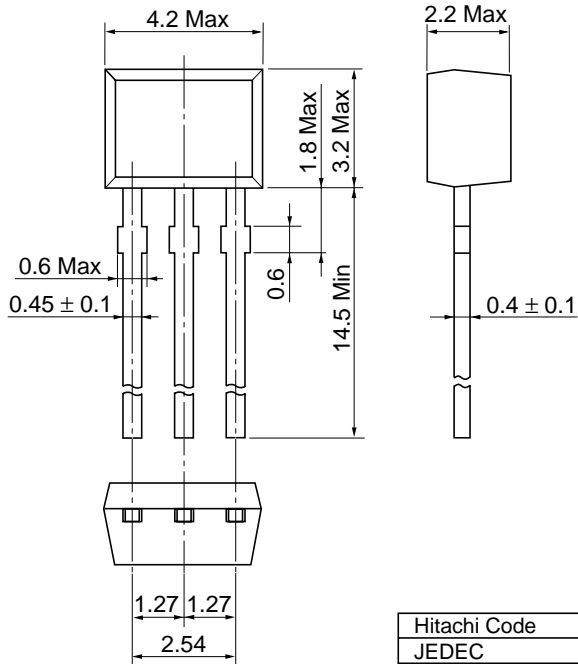
Gain Bandwidth Product vs. Collector Current



Collector Output Capacitance vs. Collector to Base Voltage



Unit: mm



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

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