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# 2SC4050

Silicon NPN Epitaxial

# HITACHI

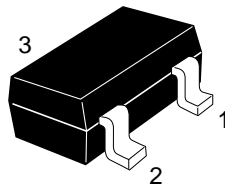
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## Application

Low frequency amplifier, switching

## Outline

MPAK



- 1. Emitter
- 2. Base
- 3. Collector

# 2SC4050

## Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	120	V
Collector to emitter voltage	$V_{CEO}$	120	V
Emitter to base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	100	mA
Collector power dissipation	$P_C$	150	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

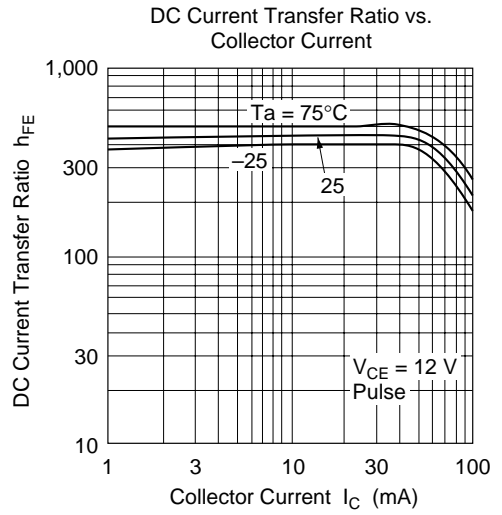
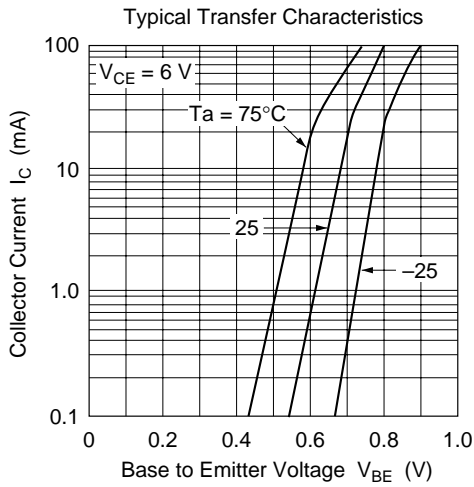
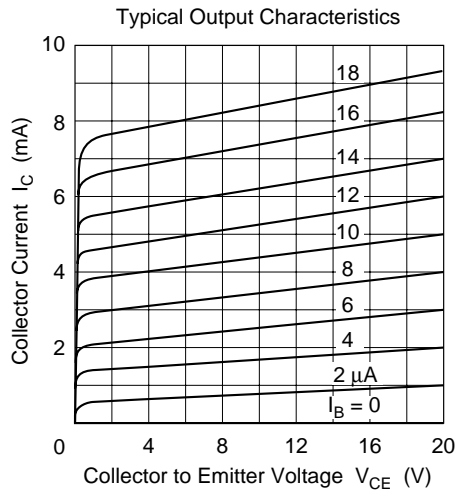
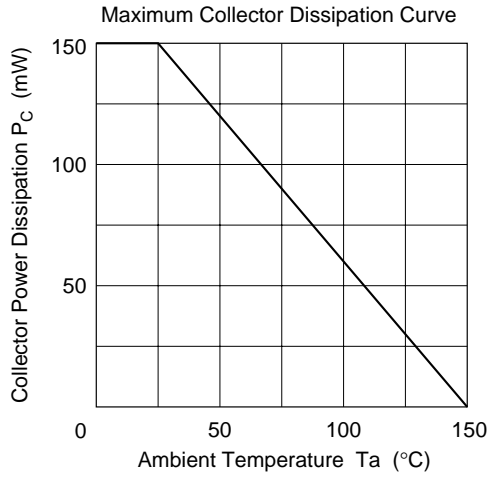
## Electrical Characteristics (Ta = 25°C)

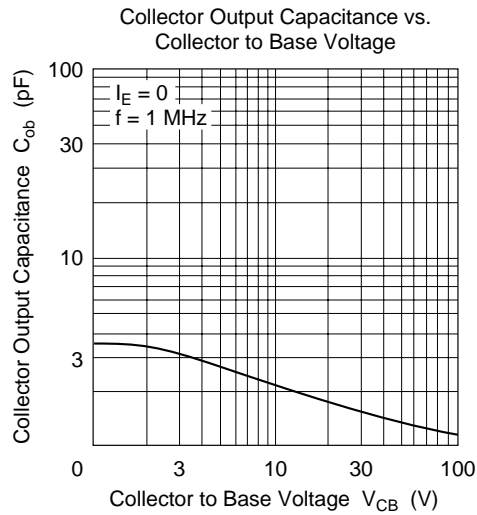
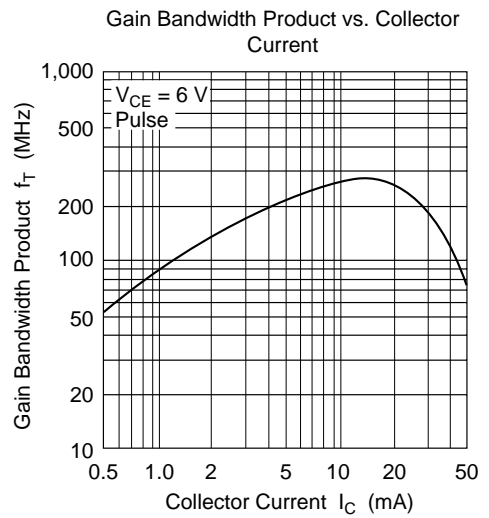
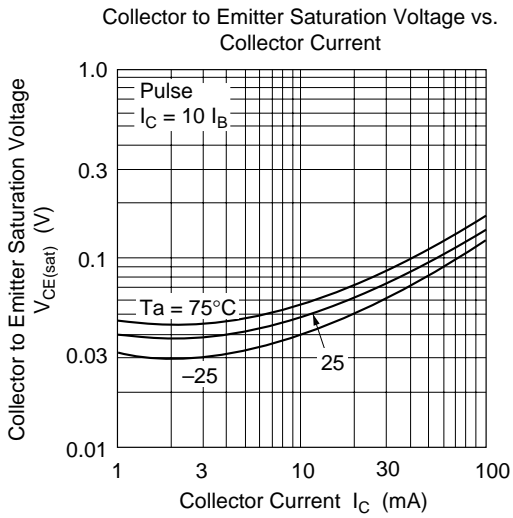
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	120	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	120	—	—	V	$I_C = 1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	V	$I_E = 10 \mu A, I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	0.1	$\mu A$	$V_{CB} = 70 \text{ V}, I_E = 0$
Emitter cutoff current	$I_{EBO}$	—	—	0.1	$\mu A$	$V_{EB} = 2 \text{ V}, I_C = 0$
DC current transfer ratio	$h_{FE}^{*1}$	250	—	800		$V_{CE} = 12 \text{ V}, I_C = 2 \text{ mA}^{*2}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	0.1	V	$I_C = 10 \text{ mA}, I_B = 1 \text{ mA}^{*2}$
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	1.1	V	$I_C = 10 \text{ mA}, I_B = 1 \text{ mA}^{*2}$

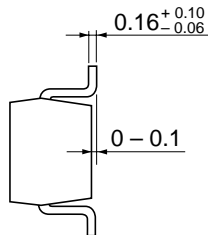
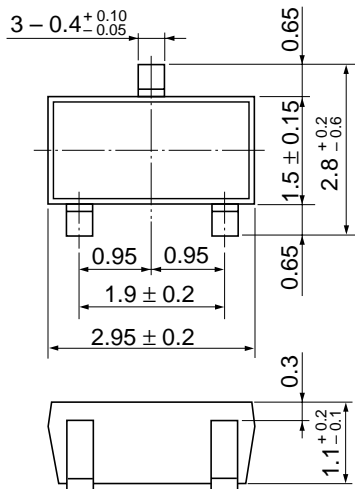
Notes: 1. The 2SC4050 is grouped by  $h_{FE}$  as follows.

2. Pulse test

Grade	D	E
Mark	KID	KIE
$h_{FE}$	250 to 500	400 to 800







Hitachi Code	MPAK
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.011 g

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