

2SC4046

Silicon NPN Epitaxial

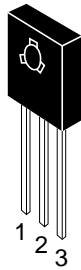
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Application

High voltage amplifier

Outline

TO-126 MOD



1. Emitter
2. Collector
3. Base

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	0.2	A
Collector power dissipation	P_C^{*1}	8	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

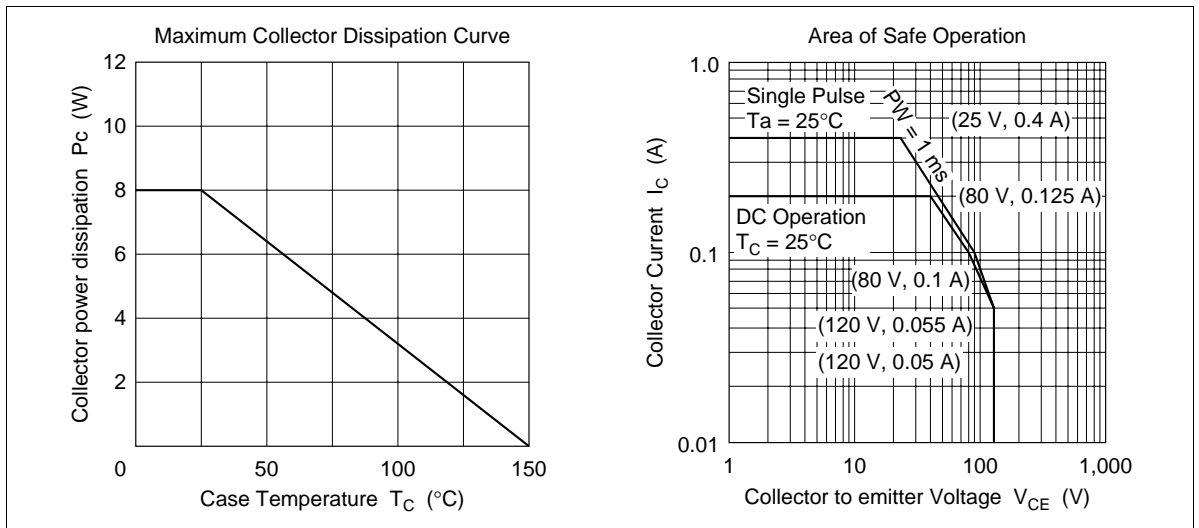
Note: 1. Value at $T_c = 25^\circ\text{C}$

Electrical Characteristics (Ta = 25°C)

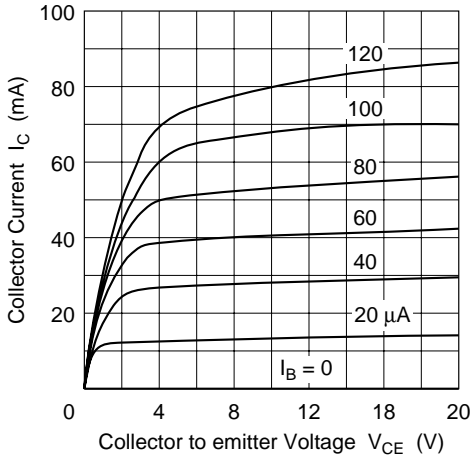
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	120	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	120	—	—	V	$I_C = 1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	V	$I_E = 10 \mu A, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	10	μA	$V_{CB} = 80 \text{ V}, I_E = 0$
DC current transfer ratio	h_{FE}^{*1}	250	—	800		$V_{CE} = 5 \text{ V}, I_C = 10 \text{ mA}$
Base to emitter voltage	V_{BE}	—	—	1.0	V	
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.0	V	$I_C = 200 \text{ mA}, I_B = 20 \text{ mA}$
Gain bandwidth product	f_T	—	350	—	MHz	$V_{CE} = 10 \text{ V}, I_C = 50 \text{ mA}$
Collector output capacitance	Cob	—	3.5	—	pF	$V_{CB} = 30 \text{ V}, f = 1 \text{ MHz}, I_E = 0$

Note: 1. The 2SC4046 is grouped by h_{FE} as follows.

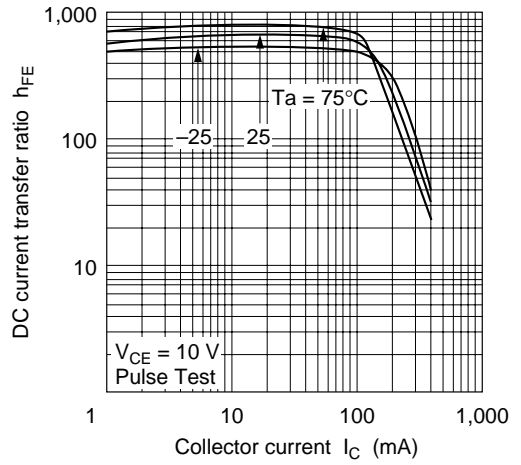
Grade	D	E
h_{FE}	250 to 500	400 to 800



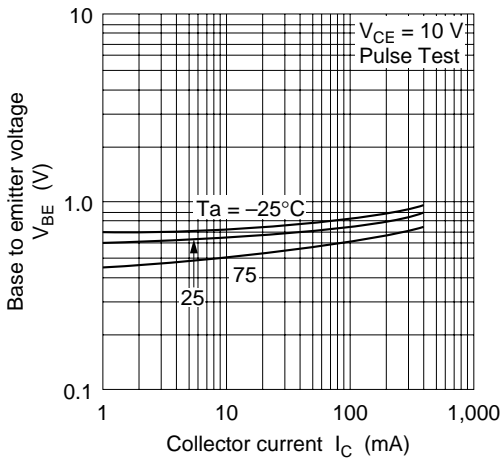
Typical Output Characteristics



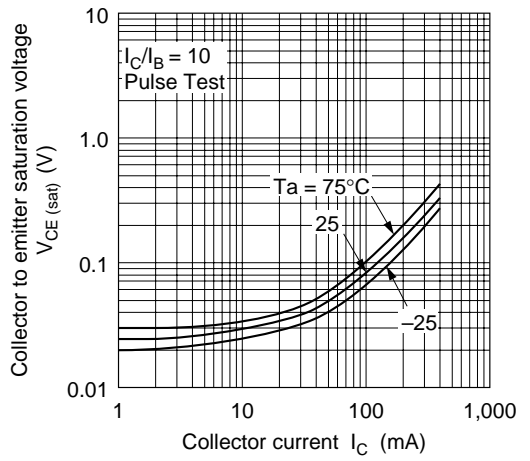
DC Current Transfer Ratio vs. Collector Current

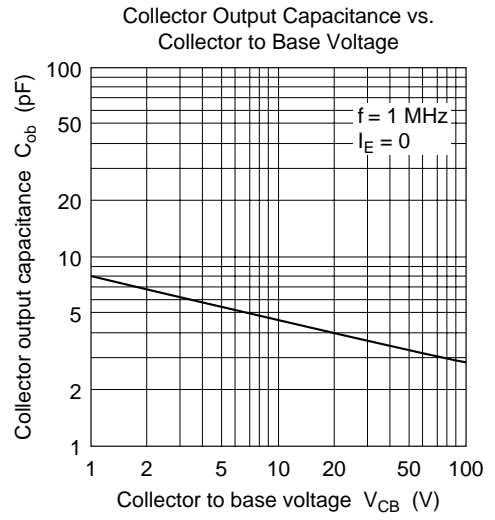
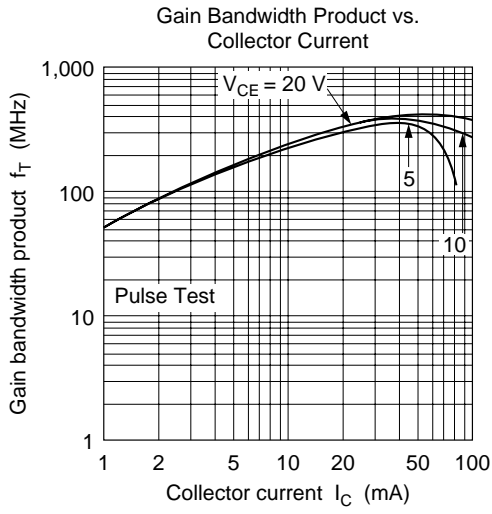


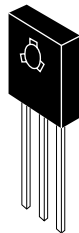
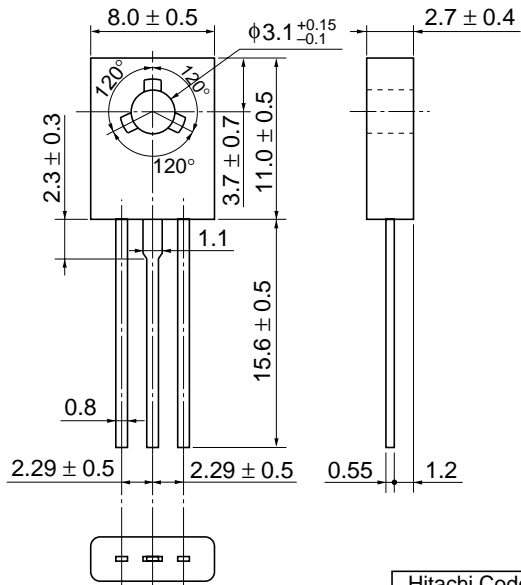
Base to Emitter Voltage vs. Collector Current



Collector to Emitter Saturation Voltage vs. Collector Current







Hitachi Code	TO-126 Mod
JEDEC	—
EIAJ	—
Weight (reference value)	0.67 g

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