2SC4046

Silicon NPN Epitaxial

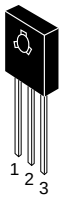
HITACHI

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	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

Note: 1. Value at T_C = 25°C

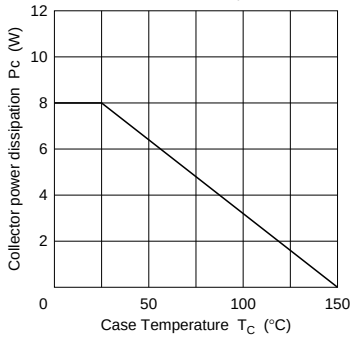
Electrical Characteristics (Ta = 25°C)

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

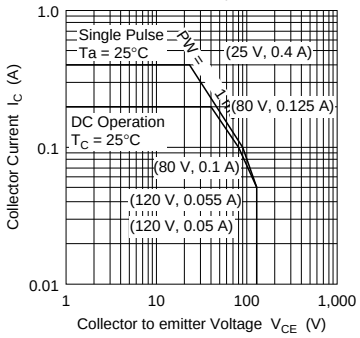
Note: 1. The 2SC4046 is grouped by h_{FE} as follows.

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

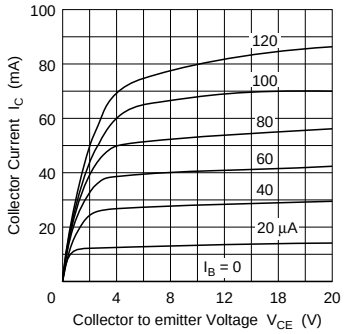
Maximum Collector Dissipation Curve



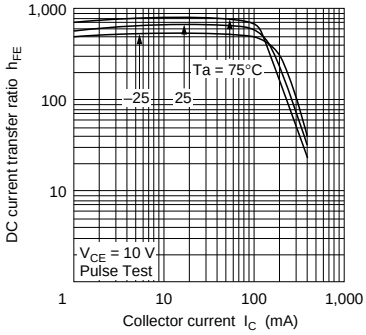
Area of Safe Operation



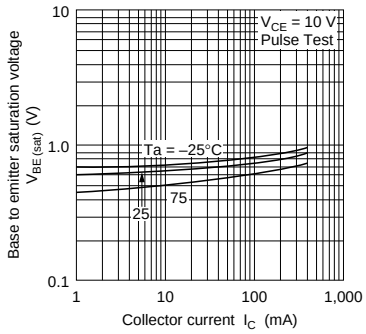
Typical Output Characteristics



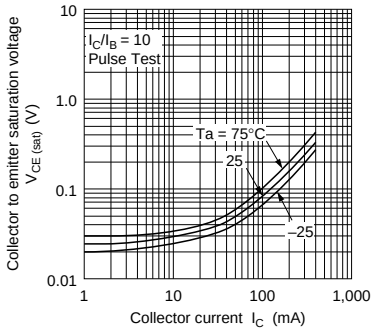
DC Current Transfer Ratio vs. Collector Current



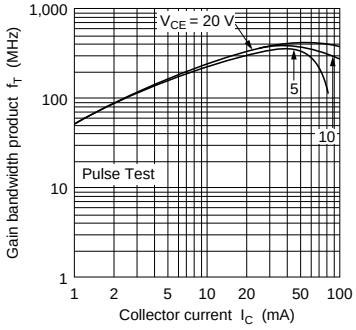
Base to Emitter Saturation Voltage vs. Collector Current



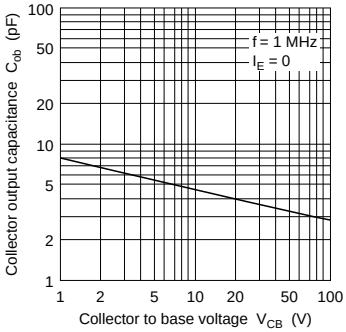
Collector to Emitter Saturation Voltage vs. Collector Current



Gain Bandwidth Product vs. Collector Current



Collector Output Capacitance vs. Collector to Base Voltage



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