2SC5022

Silicon NPN Triple difused

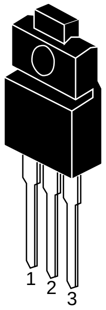
Application

High voltage amplifier

Features

- High brakedown voltage
  $V_{(BR)CEO}$ = 1500 V Min

TO–220FM



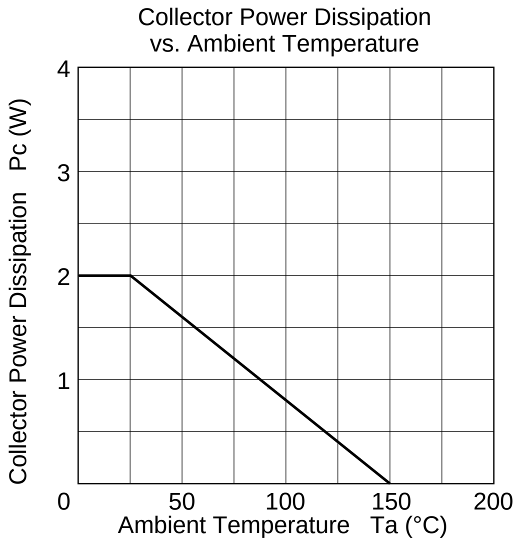
1. Base
2. Collector
3. Emitter

Absolute Maximum Ratings (Ta = 25°C)

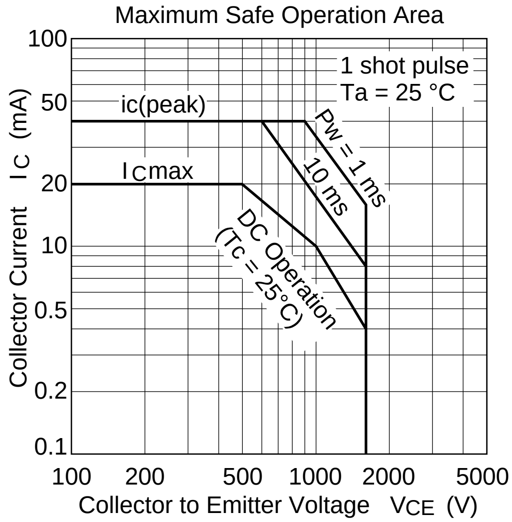
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	1500	V
Collector to emitter voltage	V_{CEO}	1500	V
Emitter to base voltage	V_{EBO}	6	V
Collector current	I_C	20	mA
Collector peak current	ic (peak)	40	mA
Collector power dissipation	P_C	2	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

Electrical Characteristics (Ta = 25°C)

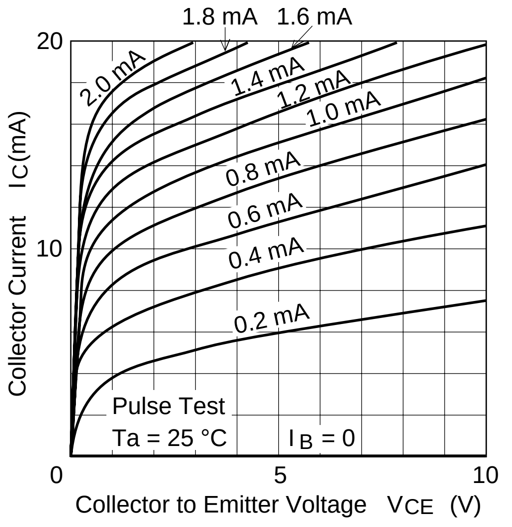
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector cutoff current	I_{CES}	—	—	10	µA	V_{CE} = 1500 V, R_{BE} = 0
Collector cutoff current	I_{CEO}	—	—	100	µA	V_{CE} = 1500 V, R_{BE} = ∞
Emitter cutoff current	I_{EBO}	—	—	10	µA	V_{EB} = 6 V, I_C = 0
DC current transfer ratio	h_{FE}	10	—	—		V_{CE} = 10 V, I_C = 10 mA
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	5.0	V	I_C = 10 mA, I_B = 2 mA
Gain bandwidth product	f_T	—	5.5	—	MHz	V_{CE} = 20 V, I_C = 1 mA
Collector output capacitance	Cob	—	3.4	—	pF	V_{CB} = 100 V, I_E = 0, f=1MHz



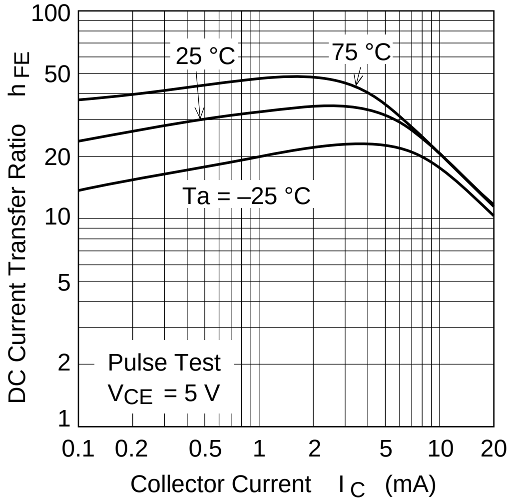
Collector Power Dissipation vs. Ambient Temperature



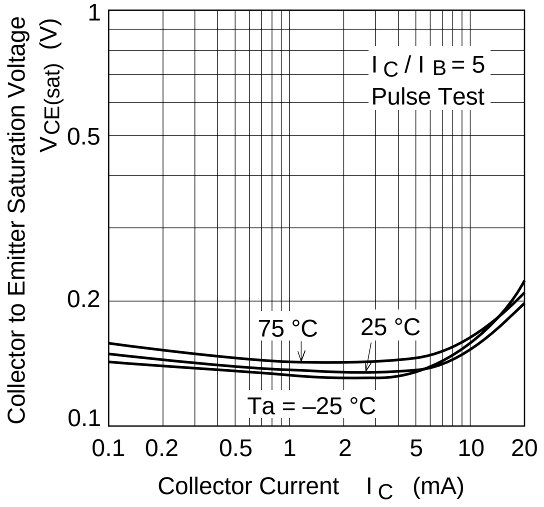
Maximum Safe Operation Area



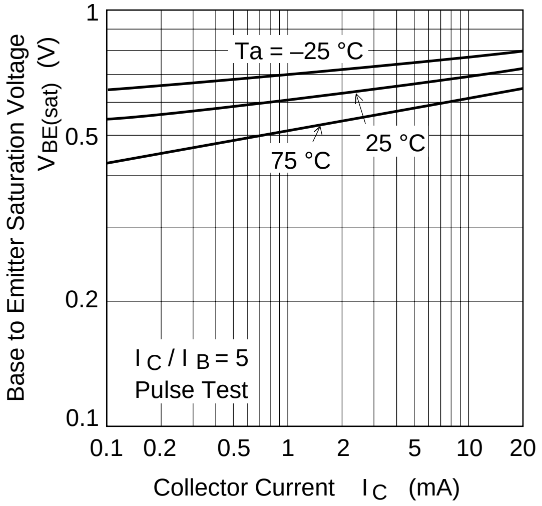
Typical Output Characteristics



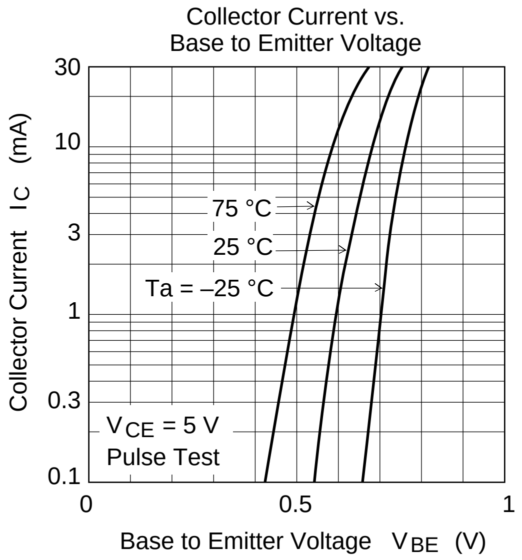
DC Current Transfer Ratio vs. Collector Current

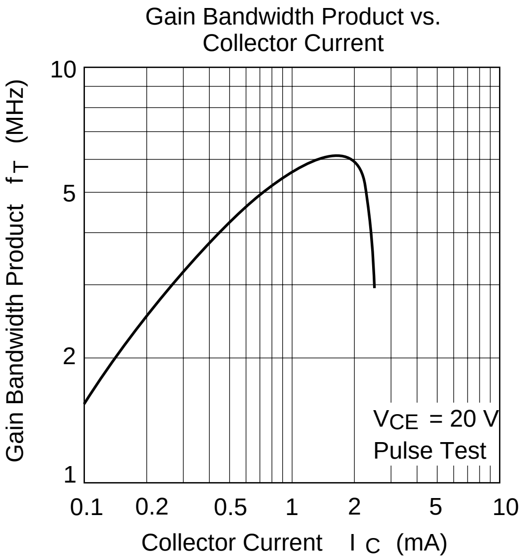


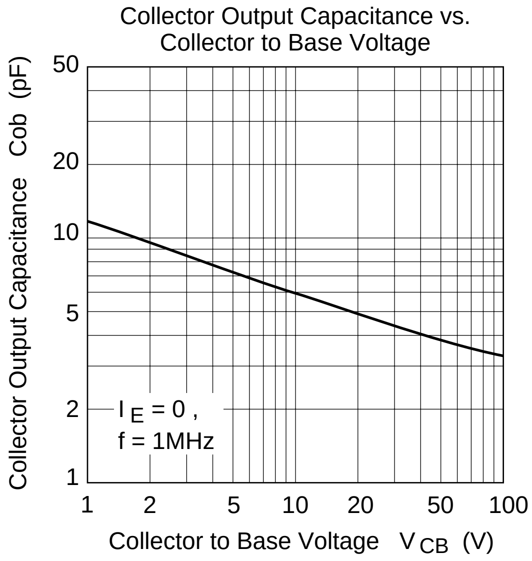
Collector to Emitter Saturation Voltage vs. Collector Current



Base to Emitter Saturation Voltage vs. Collector Current


Collector Current vs.
Base to Emitter Voltage
Collector Current I C (mA)
30
10
3
1
0.3
0.1
75 °C
25 °C
Ta = –25 °C
V CE = 5 V
Pulse Test
0
0.5
1
Base to Emitter Voltage V BE (V)

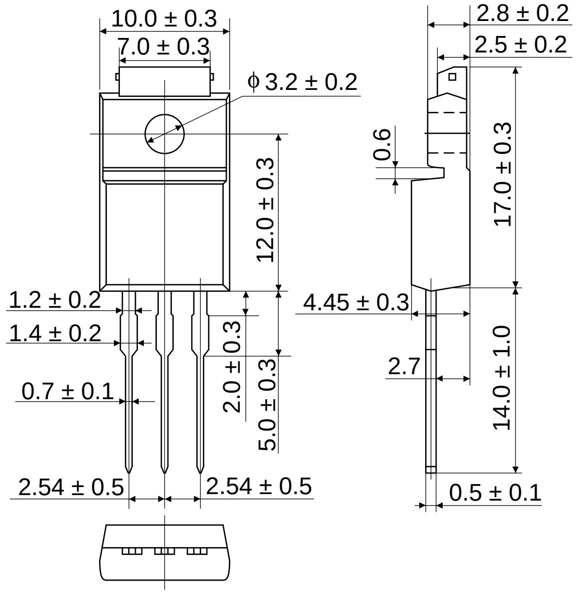

Gain Bandwidth Product vs.
Collector Current
Gain Bandwidth Product f T (MHz)
10
5
2
1
VCE = 20 V
Pulse Test
0.1
0.2
0.5
1
2
5
10
Collector Current I C (mA)

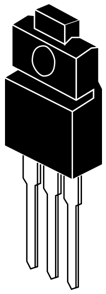

Collector Output Capacitance vs.
Collector to Base Voltage
Collector Output Capacitance Cob (pF)
50
20
10
5
2
1
I E = 0 ,
f = 1MHz
1
2
5
10
20
50
100
Collector to Base Voltage V CB (V)

Package Dimensions

Unit : mm

- TO–220FM





Hitachi Code	TO–220FM
EIAJ	SC–72
JEDEC	—