HITACHI

2SC5225

Silicon NPN Epitaxial Transistor

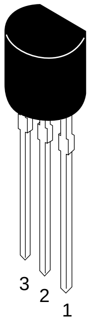
Application

- Wide band video output amplifier for color CRT monitor.
- High frequency high voltage amplifier.
- High speed power switching.
- Compelementary pair with 2SA1960.

Features

- High voltage large current operation.
  V_{CEO} = 80 V, I_C = 300 mA
- High f_T.
  f_T = 1.4 GHz
- Small output capacitance.
  Cob = 3 pF

TO–92



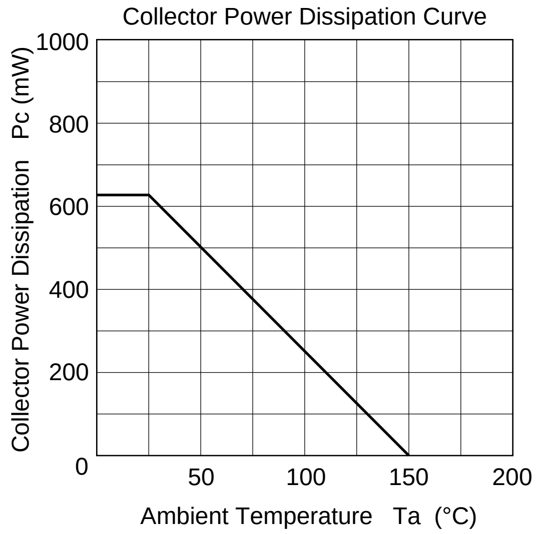
1. Emitter
2. Collector
3. Base

Table 1 Absolute Maximum Ratings (Ta = 25°C)

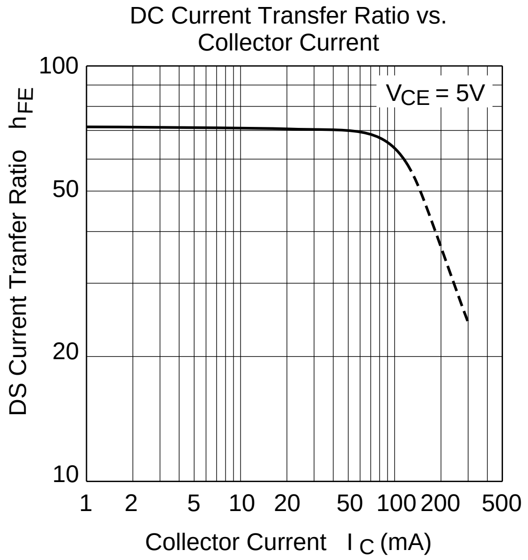
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	100	V
Collector to emitter voltage	V_{CEO}	80	V
Emitter to base voltage	V_{EBO}	3	V
Collector current	I_C	300	mA
Collector power dissipation	P_C	625	mW
Junction temperature	T_j	150	°C
Storage temperature	Tstg	–55 to +150	°C

Table 2 Electrical Characteristics (Ta = 25°C)

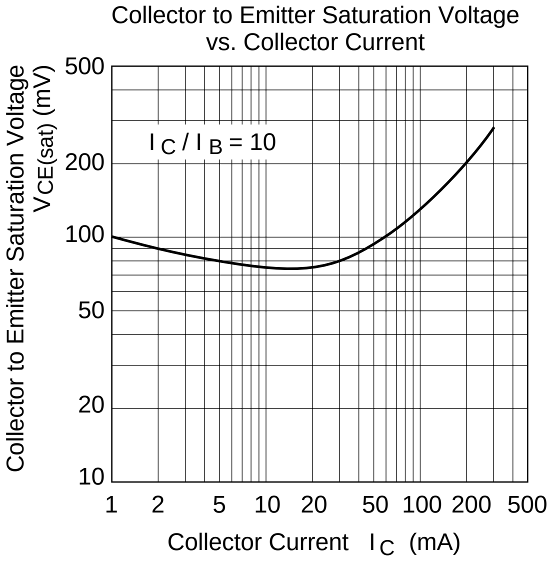
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	100	—	—	V	I_C = 100 µA I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	80	—	—	V	I_C = 1 mA R_{BE} = ∞
Collector to base cutoff current	I_{CBO}	—	—	1.0	µA	V_{CB} = 80 V I_E = 0
Emitter to base cutoff current	I_{EBO}	—	—	10	µA	V_{EB} = 3 V I_C = 0
DC current transfer ratio	h_{FE}	20	70	—		V_{CE} = 5 V, I_C = 50 mA Pulse test
Gain bandwidth product	f_T	1.2	1.4	—	GHz	V_{CE} = 10 V I_C = 50 mA
Emitter input capacitance	Cib	—	13	19	pF	V_{EB} = 0 I_C = 0 f = 1 MHz
Collector output capacitance	Cob	—	3	4.0	pF	V_{CB} = 10V I_E = 0 f = 1 MHz



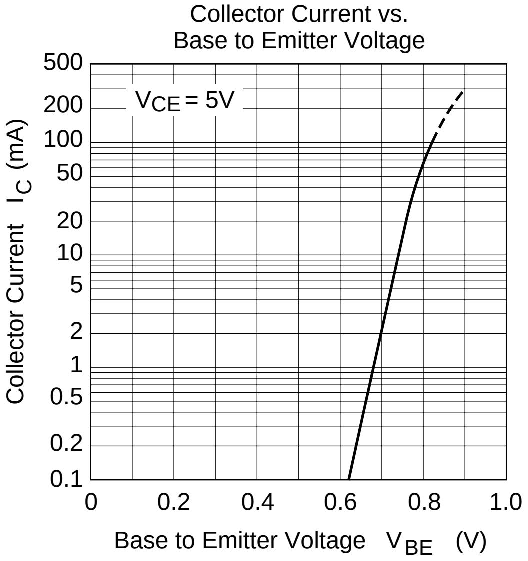
Collector Power Dissipation Curve



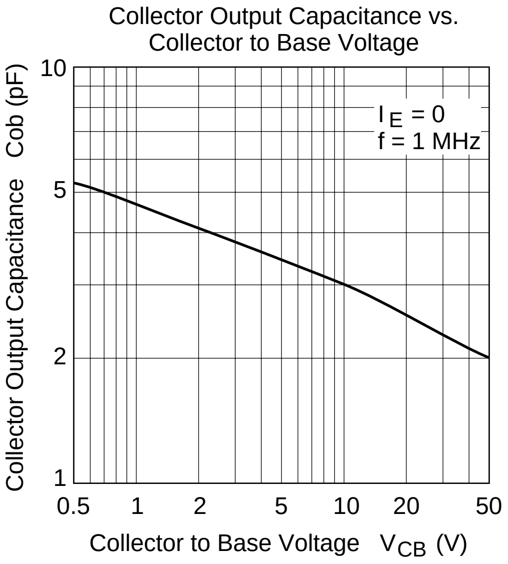
DC Current Transfer Ratio vs. Collector Current

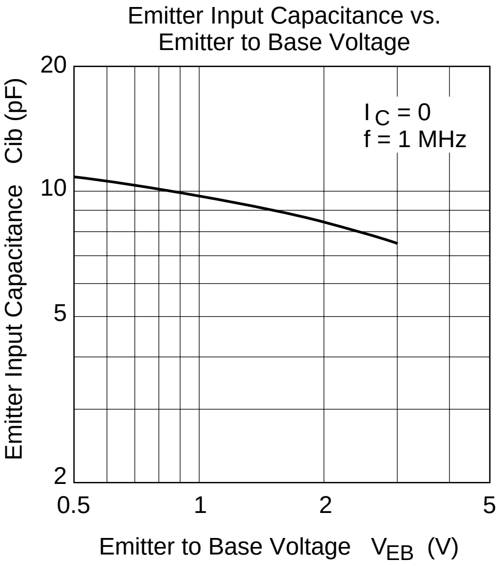


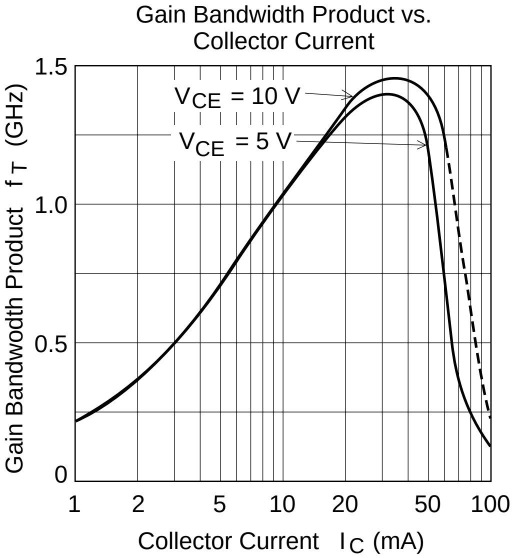
Collector to Emitter Saturation Voltage vs. Collector Current



Collector Current vs. Base to Emitter Voltage

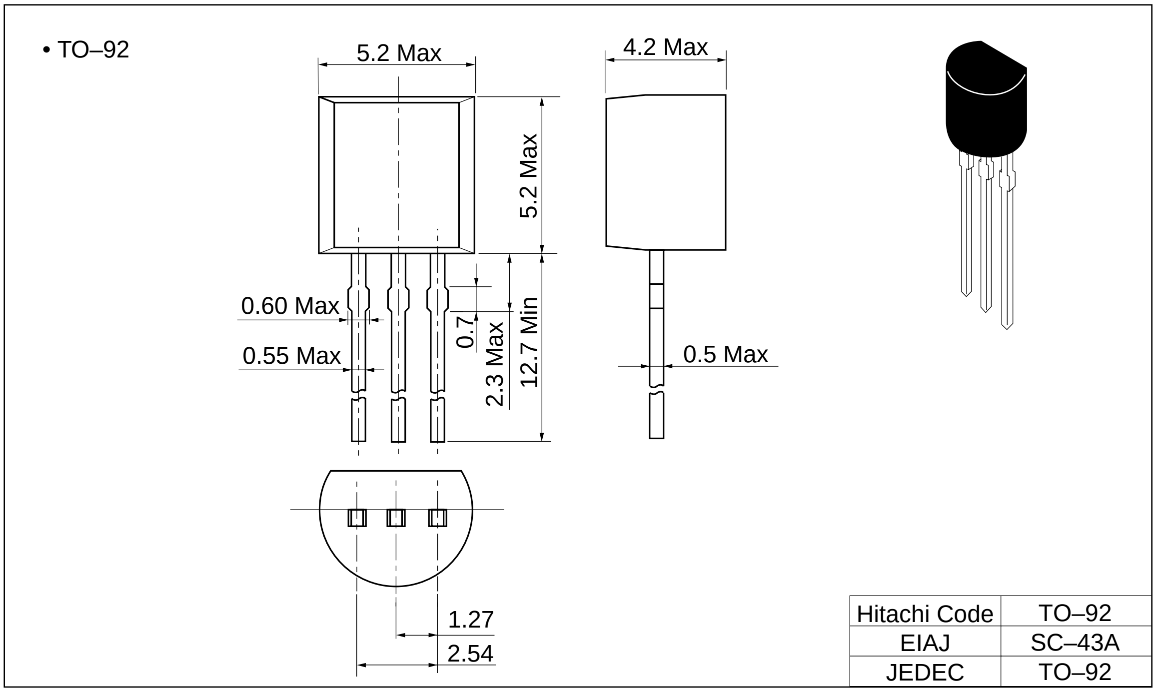

Collector Output Capacitance vs.
Collector to Base Voltage
Collector Output Capacitance Cob (pF)
10
5
2
1
I E = 0
f = 1 MHz
0.5
1
2
5
10
20
50
Collector to Base Voltage VCB (V)


Emitter Input Capacitance vs.
Emitter to Base Voltage
Emitter Input Capacitance Cib (pF)
20
10
5
2
I C = 0
f = 1 MHz
0.5
1
2
5
Emitter to Base Voltage VEB (V)


Gain Bandwidth Product vs.
Collector Current
Gain Bandwidth Product f T (GHz)
1.5
1.0
0.5
0
VCE = 10 V
VCE = 5 V
1
2
5
10
20
50
100
Collector Current I C (mA)

Package Dimensions

Unit : mm



Hitachi Code	TO–92
EIAJ	SC–43A
JEDEC	TO–92