2SC5390

Silicon NPN Epitaxial
High Frequency Amplifier

HITACHI

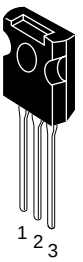
ADE-208-492 (Z)
1st. Edition
December. 1996

Features

- Excellent high frequency characteristics
  f_T = 1.4GHz (typ.)
- Low output capacitance
  C_{ob} = 2.4 pF (typ.)
- Isolated package
  TO–126FM

Outline

TO–126FM



1. Emitter
2. Collector
3. Base

2SC5390

Absolute Maximum Ratings (Ta = 25°C)

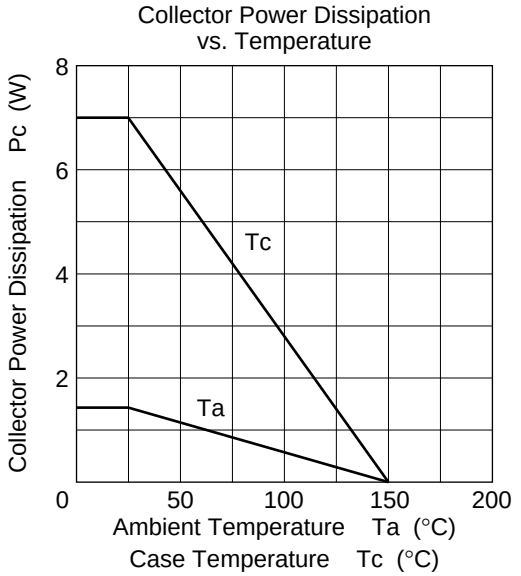
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	110	V
Collector to emitter voltage	V_{CEO}	110	V
Emitter to base voltage	V_{EBO}	3	V
Collector current	I_C	200	mA
Collector peak current	$i_{c(peak)}$	400	mA
Collector power dissipation	P_C	1.4	W
Collector power dissipation	P_C*[1]	7	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

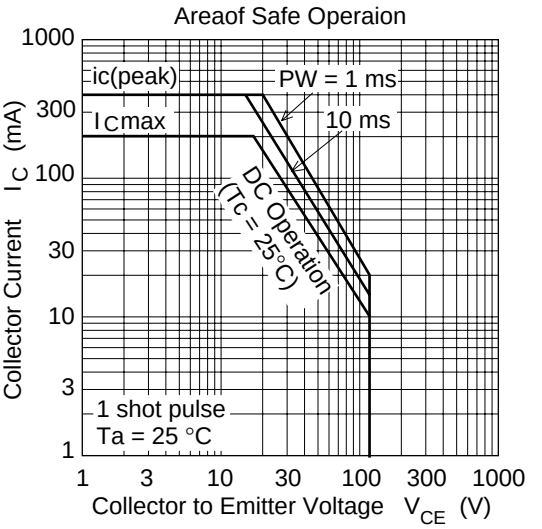
Note: 1. Value at Tc = 25°C

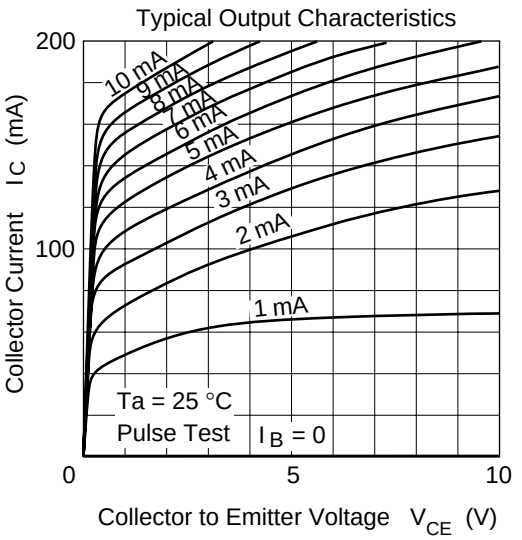
Electrical Characteristics (Ta = 25°C)

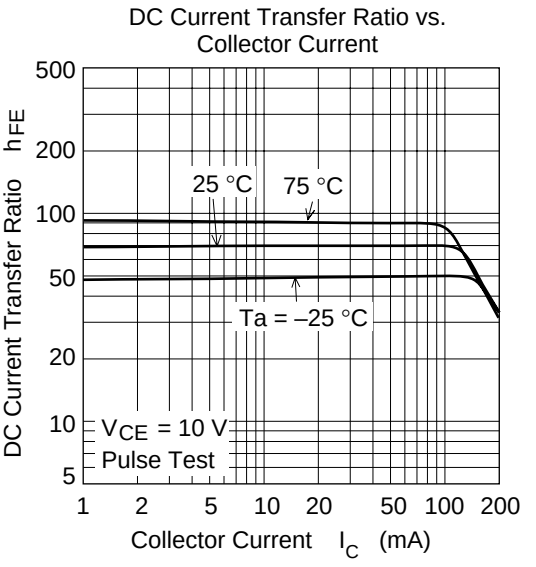
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	110	—	—	V	I_C = 10É A, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	110	—	—	V	I_C = 1mA, R_{BE} = ∞
Collector cutoff current	I_{CBO}	—	—	10	µA	V_{CB} = 100V, I_E = 0
Emitter cutoff current	I_{EBO}	—	—	10	µA	V_{EB} = 3V, I_C = 0
DC current transfer ratio	h_{FE}	30	—	100		V_{CE} = 10 V, I_C = 10mA
Base to emitter voltage	V_{BE}	—	—	1	V	V_{CE} = 10 V, I_C = 10mA
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1	V	I_C = 200mA, I_B = 20mA
Gain bandwidth product	f_T	1.0	1.4	—	GHz	V_{CE} = 10 V, I_C = 50mA
Collector Output capacitance	C_{ob}	—	2.4	3.5	pF	V_{CB} = 30V, I_E = 0 f = 1MHz

Main Characteristics

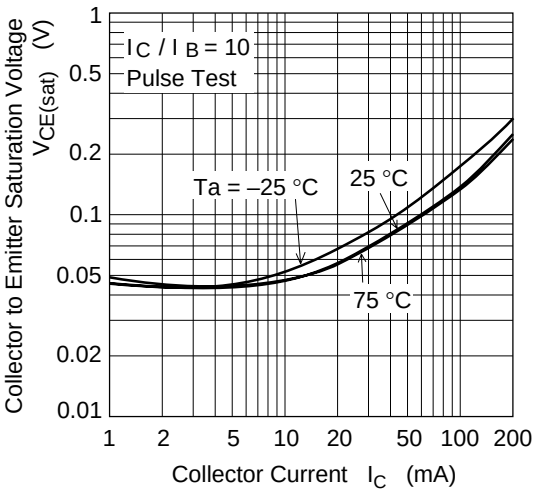




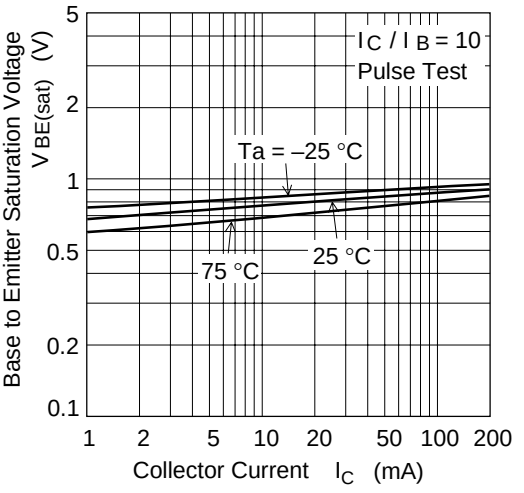




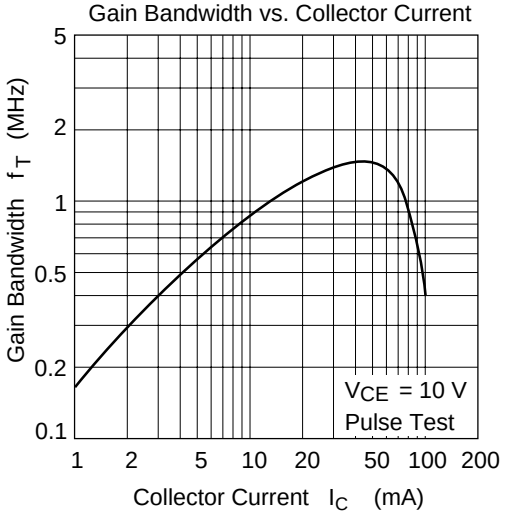
Collector to Emitter Saturation Voltage vs. Collector Current



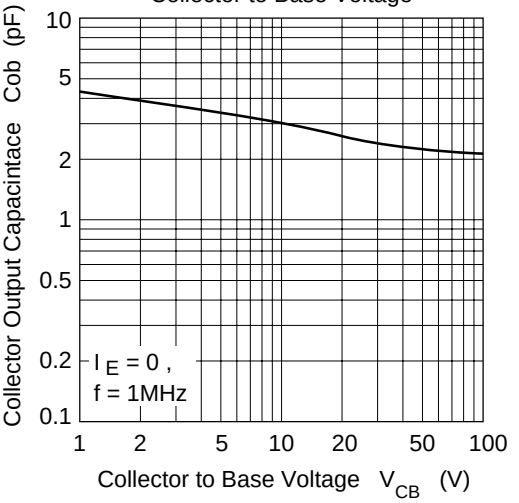
Base to Emitter Saturation Voltage vs. Collector Current



Gain Bandwidth vs. Collector Current

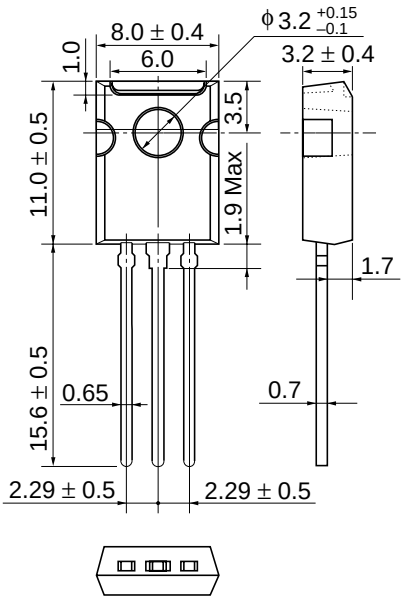


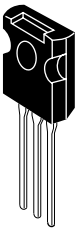
Collctor Output Capacitance vs. Collector to Base Voltage



Package Dimentions

Unit: mm





Hitachi Code	TO–126FM
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