

2SC5390

Silicon NPN Epitaxial
High Frequency Amplifier

HITACHI

ADE-208-492 (Z)

1st. Edition

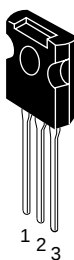
December. 1996

Features

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

Outline

TO-126FM



1. Emitter
2. Collector
3. Base

2SC5390

Absolute Maximum Ratings (Ta = 25°C)

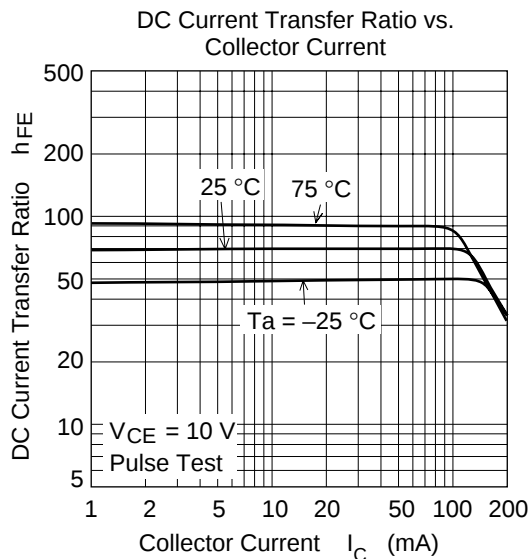
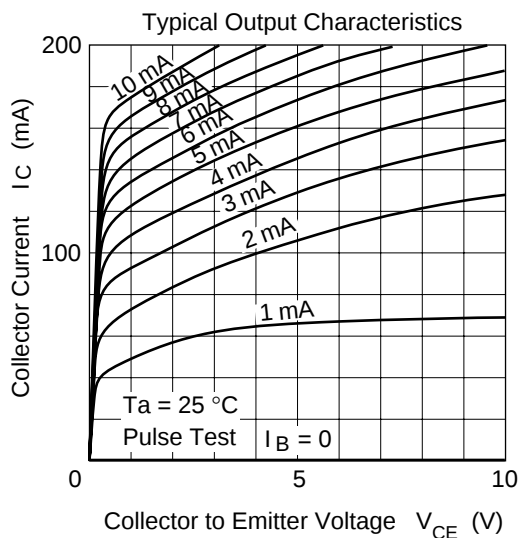
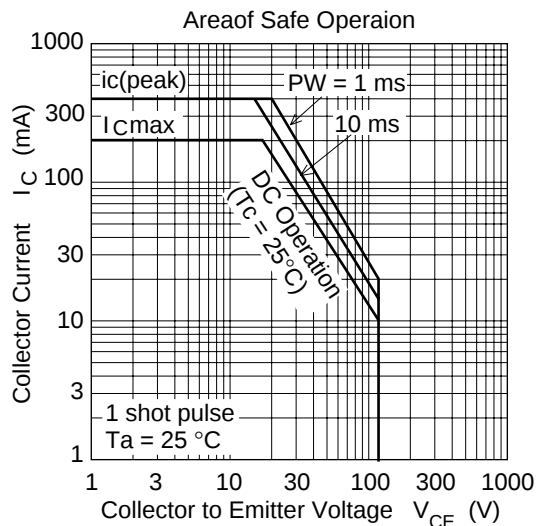
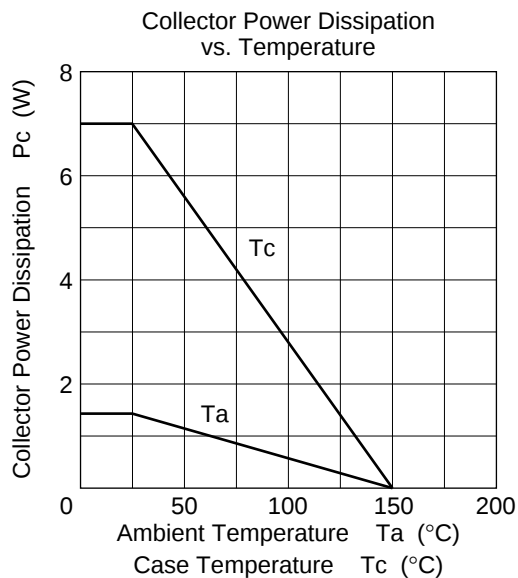
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	110	V
Collector to emitter voltage	V_{CEO}	110	V
Emitter to base voltage	V_{EBO}	3	V
Collector current	I_C	200	mA
Collector peak current	$i_{c(peak)}$	400	mA
Collector power dissipation	P_C	1.4	W
Collector power dissipation	P_C^{*1}	7	W
Junction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

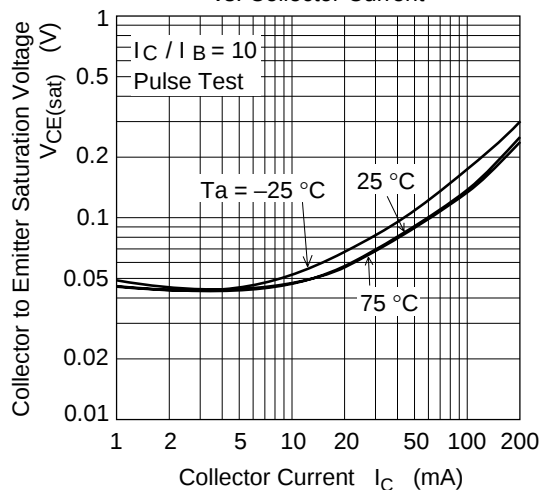
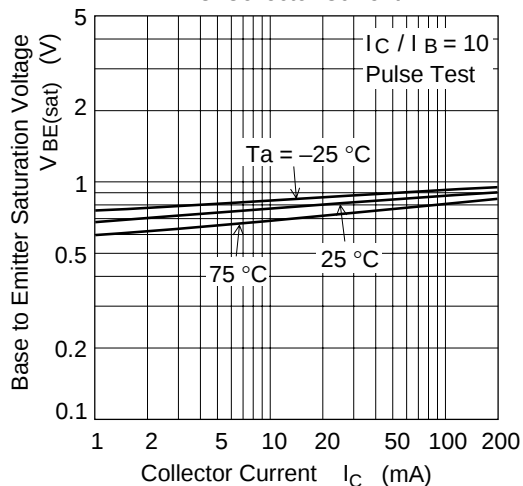
Note: 1. Value at $T_c = 25^\circ\text{C}$

Electrical Characteristics (Ta = 25°C)

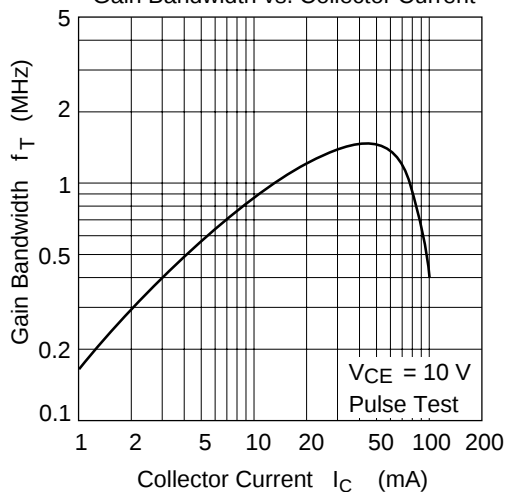
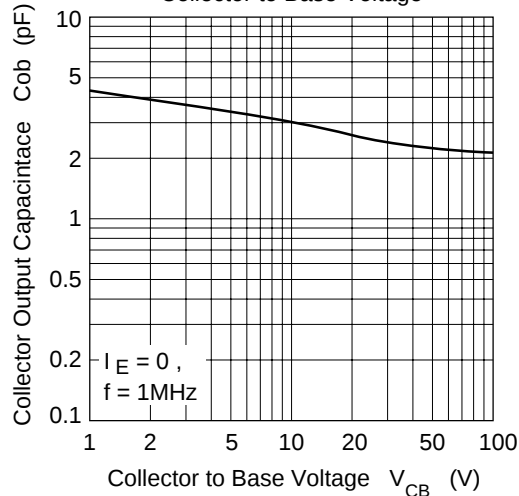
Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	110	—	—	V	$I_C = 10\text{E}^{-6}\text{ A}$, $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	110	—	—	V	$I_C = 1\text{mA}$, $R_{BE} = \infty$
Collector cutoff current	I_{CBO}	—	—	10	μA	$V_{CB} = 100\text{V}$, $I_E = 0$
Emitter cutoff current	I_{EBO}	—	—	10	μA	$V_{EB} = 3\text{V}$, $I_C = 0$
DC current transfer ratio	h_{FE}	30	—	100		$V_{CE} = 10\text{ V}$, $I_C = 10\text{mA}$
Base to emitter voltage	V_{BE}	—	—	1	V	$V_{CE} = 10\text{ V}$, $I_C = 10\text{mA}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1	V	$I_C = 200\text{mA}$, $I_B = 20\text{mA}$
Gain bandwidth product	f_T	1.0	1.4	—	GHz	$V_{CE} = 10\text{ V}$, $I_C = 50\text{mA}$
Collector Output capacitance	C_{ob}	—	2.4	3.5	pF	$V_{CB} = 30\text{V}$, $I_E = 0$ $f = 1\text{MHz}$

Main Characteristics



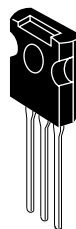
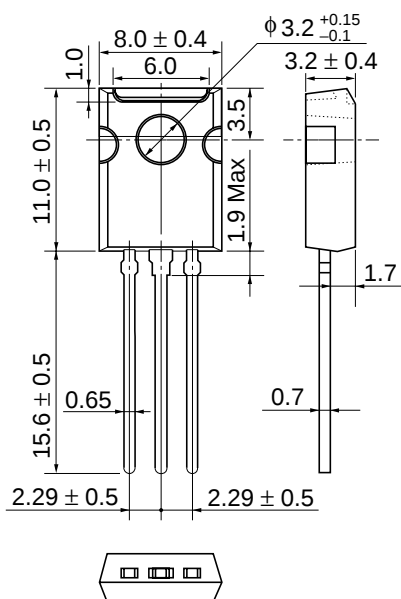
Collector to Emitter Saturation Voltage
vs. Collector CurrentBase to Emitter Saturation Voltage
vs. Collector Current

Gain Bandwidth vs. Collector Current

Collector Output Capacitance vs.
Collector to Base Voltage

Package Dimentions

Unit: mm



Hitachi Code	TO-126FM
EIAJ	—
JEDEC	—

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