

Description

Silicon PNP transistor in a SOT-89 Plastic Package

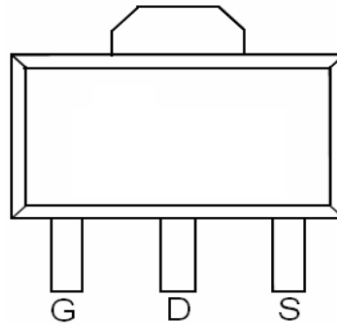
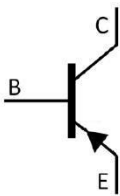
Applications

General purpose amplifier.

Features

- Low $V_{CE(sat)}$
- Excellent DC current gain characteristics.

Symbol	Parameter	Max	Unit
V_{CE0}	collector-emitter voltage	-20	V
I_c	collector current (DC)	-3.0	A

Equivalent Circuit & Pinning


SOT-89 top view

PIN1: Base

PIN 2: Collector

PIN 3: Emitter

hFE Classifications & Marking

h _{FE} Classifications Symbol	Q	R
h _{FE} Range	120~270	180~390
Marking	HAEQ	HAER

Absolute Maximum Ratings(Ta=25°C)

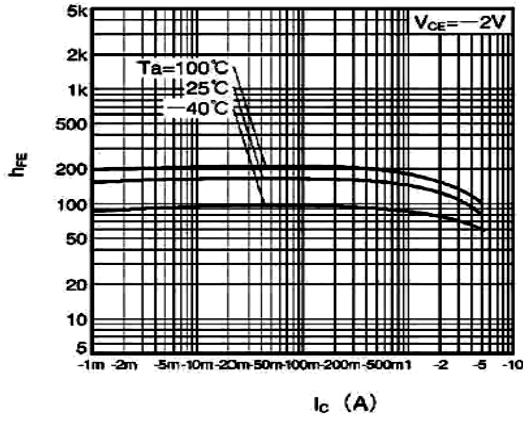
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CB0}	-20	V
Collector to Emitter Voltage	V_{CEO}	-20	V
Emitter to Base Voltage	V_{EBO}	-6.0	V
Collector Current-Continuous	I_C	-3.0	A
Collector Current -Continuous(Pulse)	I_{CP}	-5.0	A
Collector Power Dissipation	P_C	0.6	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

Electrical Characteristics(Ta=25°C)

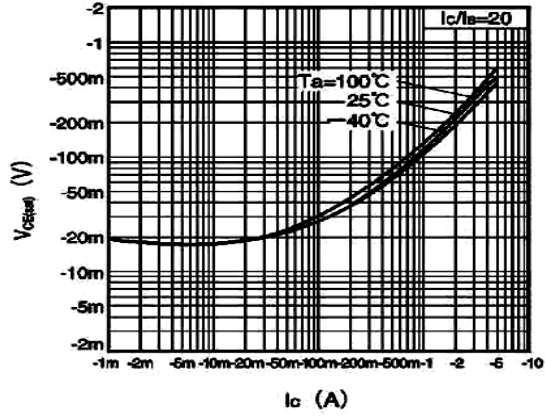
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CB0}	$I_C=-50\mu A$ $I_E=0$	-20			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=-1.0mA$ $I_B=0$	-20			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=-50\mu A$ $I_C=0$	-6.0			V
Collector Cut-Off Current	I_{CB0}	$V_{CB}=-20V$ $I_E=0$			-0.1	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=-5.0V$ $I_C=0$			-0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=-2.0V$ $I_C=-0.1A$	120		390	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-2.0A$ $I_B=-0.1A$			-0.5	V
Transition Frequency	f_T	$V_{CE}=-2.0V$ $f=100MHz$ $I_C=-0.5A$		240		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=-10V$ $f=1.0MHz$ $I_E=0$		35		pF

Electrical Characteristic Curve

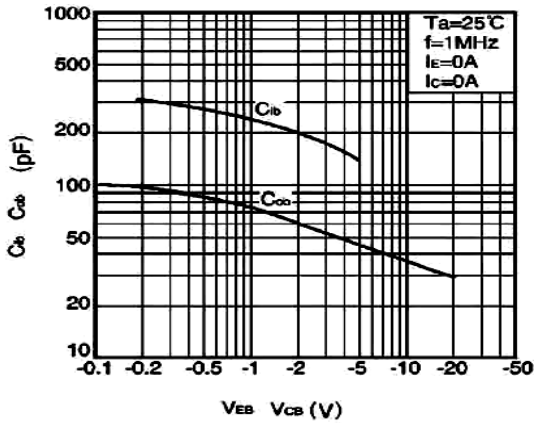
$h_{FE} - I_C$



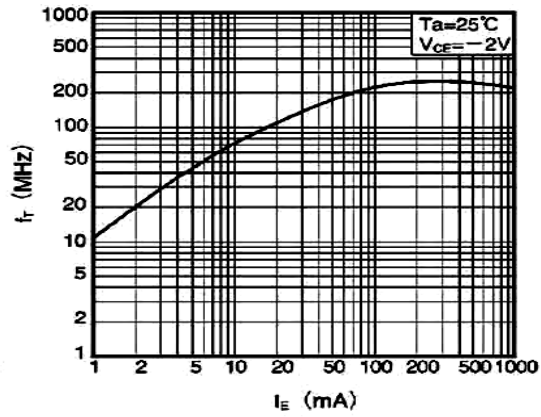
$V_{CE(sat)} - I_C$



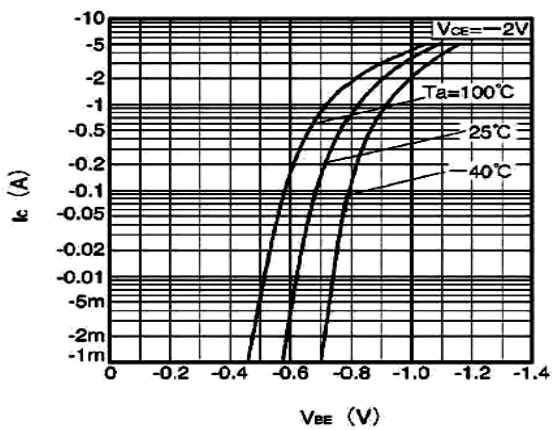
$C_{ib} C_{ob} - V_{EB} V_{CE}$



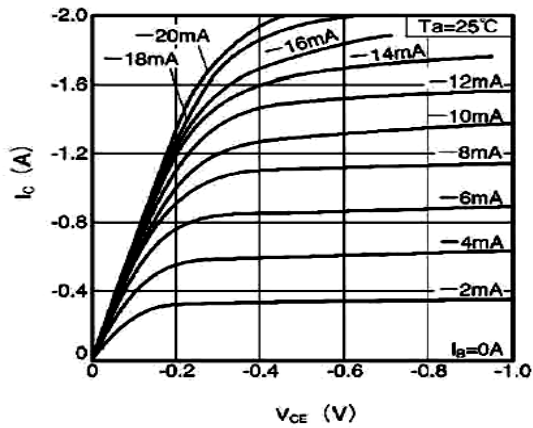
$f_T - I_E$



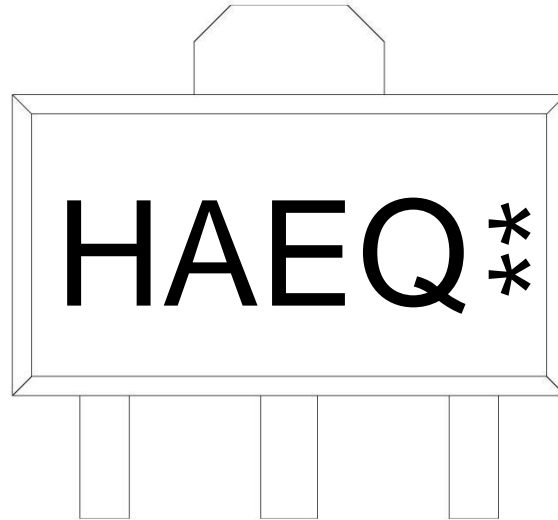
$I_C - V_{BE}$



$I_C - V_{CE}$



Marking Instructions



Note:

- H: Company Code
- AE: Product Type
- Q: h_{FE} Classifications Symbol
- ** : Lot No. Code, code change with Lot No

h_{FE} Classifications Symbol	Q	R
h_{FE} Range	120~270	180~390
Marking	HAEQ	HAER

Packaging SPEC.

REEL INFORMATION

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOT-89	1,000	7	7,000	8	56,000	7" x12	180×120×180	385×257×392

Package Outline Dimensions

SOT-89

单位: mm

