

Description

Silicon PNP transistor in a SOT-89 Plastic Package

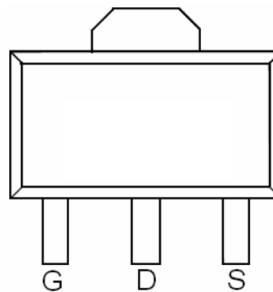
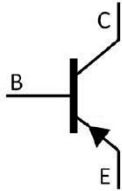
Applications

Medium power amplifier applications.

Features

- Low $V_{CE(sat)}$
- Complements the 2SD1664
- Halogen-free product

Symbol	Parameter	Max	Unit
V_{CE0}	collector-emitter voltage	-32	V
I_c	collector current (DC)	-1.0	A

Equivalent Circuit & Pinning


SOT-89 top view

PIN1: Base

PIN 2: Collector

PIN 3: Emitter

hFE Classifications & Marking

h _{FE} Classifications Symbol	P	Q	R
h _{FE} Range	82~180	120~270	180~390
Marking	HBAP	HBAQ	HBAR

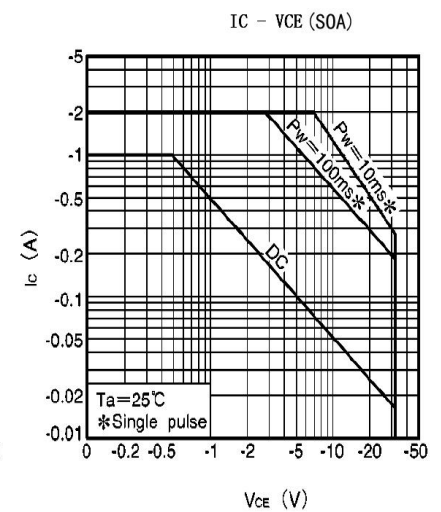
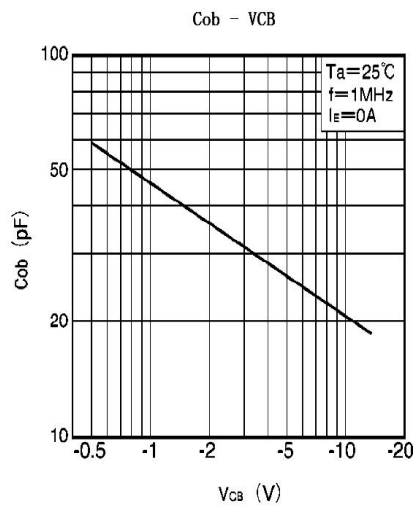
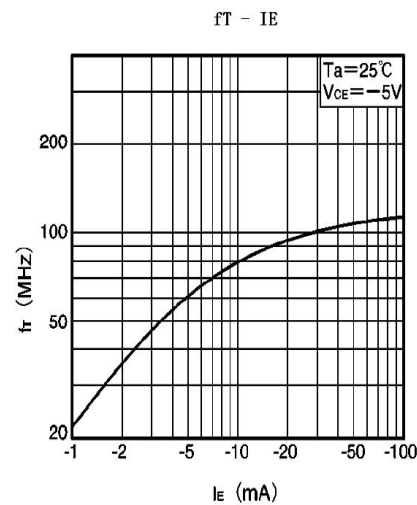
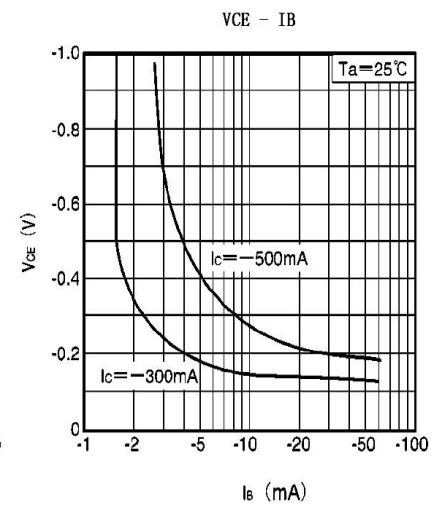
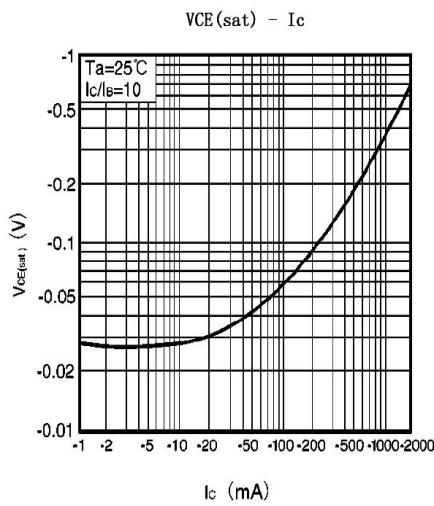
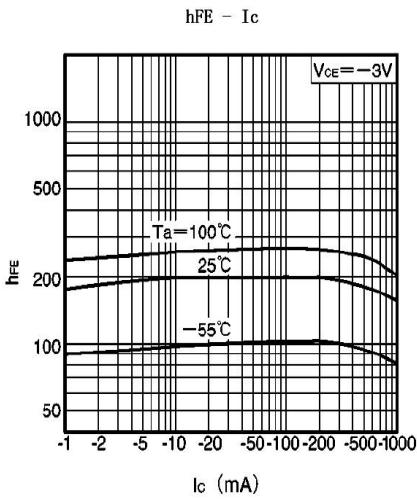
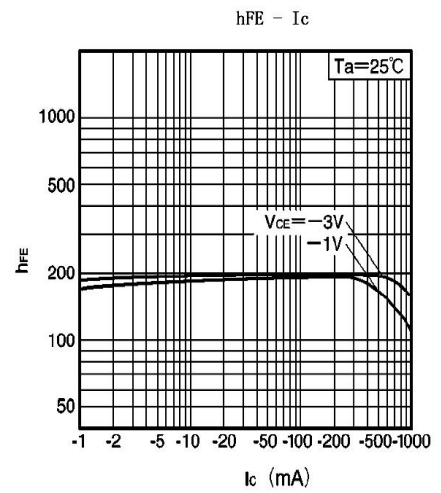
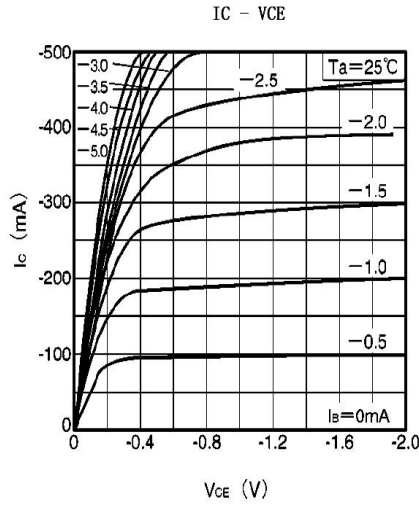
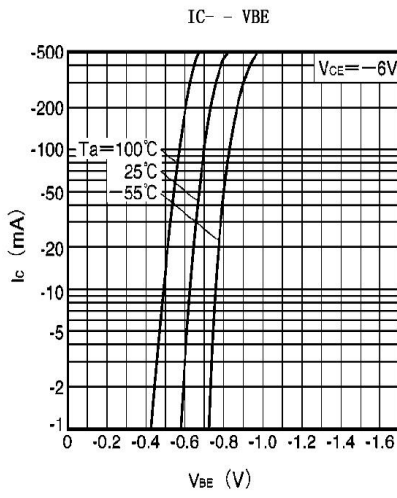
Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-40	V
Collector to Emitter Voltage	V_{CEO}	-32	V
Emitter to Base Voltage	V_{EBO}	-5.0	V
Collector Current-Continuous	I_C	-1.0	A
Collector Current-Continuous(Pulse)	I_{CP}	-2.0	A
Collector Power Dissipation	P_C	500	mW
Collector Power Dissipation	$P_C(T_C=25^\circ C)$	2.0	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

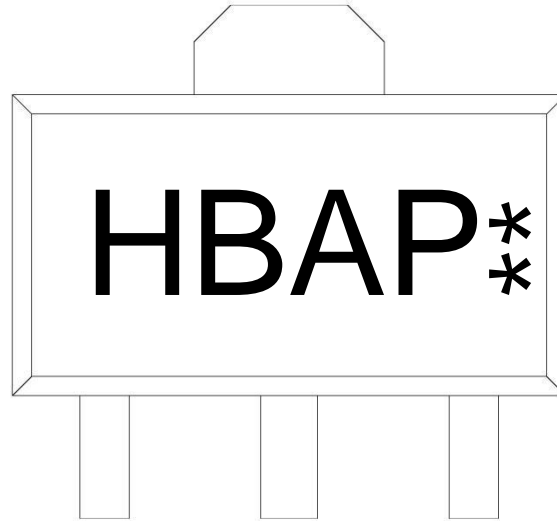
Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=-50\mu A$ $I_B=0$	-40			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=-1.0mA$ $I_B=0$	-32			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=-50\mu A$ $I_C=0$	-5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=-20V$ $I_E=0$			-0.5	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=-4.0V$ $I_C=0$			-0.5	μA
DC Current Gain	h_{FE}	$V_{CE}=-3.0V$ $I_C=-0.1A$	82		390	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-500mA$ $I_B=-50mA$		-0.2	-0.5	V
Transition Frequency	f_T	$V_{CE}=-5.0V$ $f=30MHz$ $I_E=50mA$		150		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=-10V$ $f=1.0MHz$ $I_E=0$		20	30	pF

Electrical Characteristic Curve



Marking Instructions



Note:

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

h_{FE} Classifications Symbol	P	Q	R
h_{FE} Range	82~180	120~270	180~390
Marking	HBAP	HBAQ	HBAR

Packaging SPEC.

REEL INFORMATION

Package Type	Units					Dimension (unit: mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT-89	1,000	7	7,000	8	56,000	7" ×12	180×120×180	385×257×392

Package Outline Dimensions

SOT-89

单位: mm

