

Description

Silicon NPN transistor in a SOT-89 Plastic Package

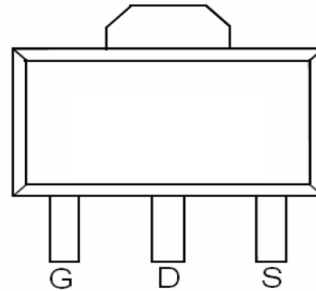
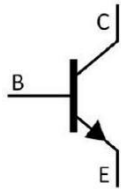
Applications

General purpose amplifier.

Features

- This device is for use as a medium power amplifier and switch requiring collector currents up to 600 mA

Symbol	Parameter	Max	Unit
V_{CE0}	collector-emitter voltage	40	V
I_c	collector current (DC)	600	mA

Equivalent Circuit & Pinning


SOT-89 top view

PIN1: Base

PIN 2: Collector

PIN 3: Emitter

hFE Classifications & Marking

h _{FE} Range	100~300
Marking	H1P

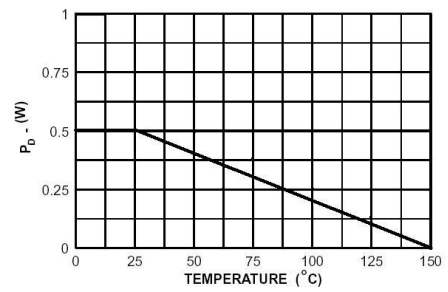
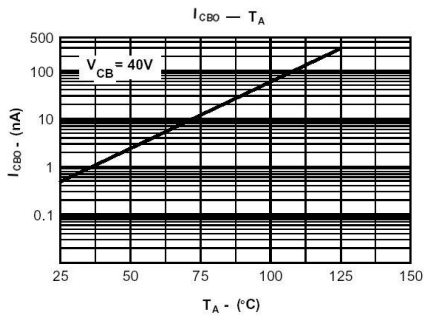
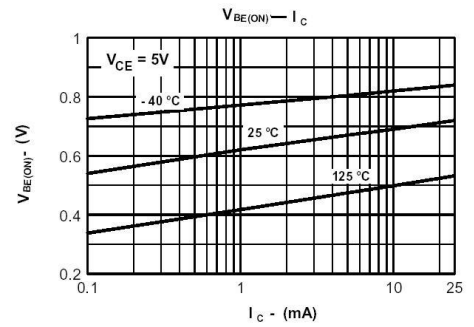
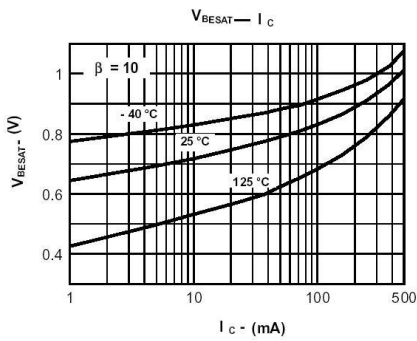
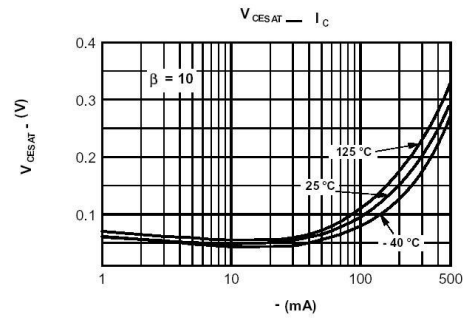
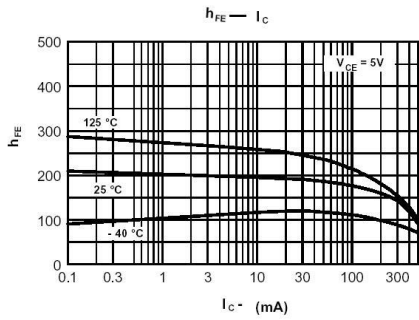
Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	75	V
Collector to Emitter Voltage	V_{CEO}	40	V
Emitter to Base Voltage	V_{EBO}	6.0	V
Collector Current - Continuous	I_C	600	mA
Collector Power Dissipation	P_C	500	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

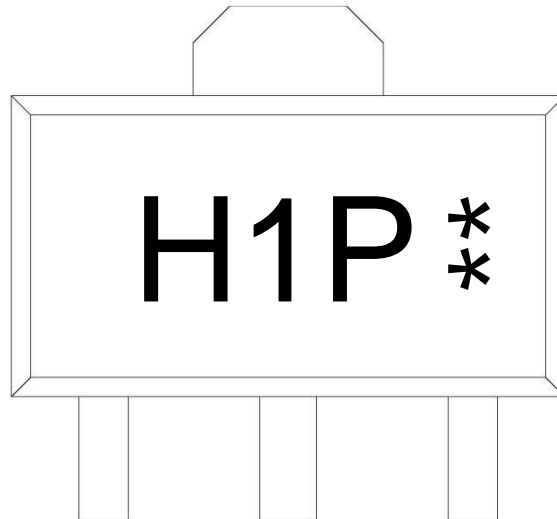
Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=10\mu A$ $I_E=0$	75			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=10mA$ $I_B=0$	40			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=10\mu A$ $I_C=0$	6.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=60V$ $I_E=0$			0.01	μA
Base Cut-Off Current	I_{EBO}	$V_{EB}=5.0V$ $I_C=0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=10V$ $I_C=150mA^*$	100		300	
Collector to Emitter Saturation Voltage	$V_{CE(sat) (1)}$	$I_C=150mA$ $I_B=15mA$			0.3	V
	$V_{CE(sat) (2)}$	$I_C=500mA$ $I_B=50mA$			1.0	V
Emitter to Base Saturation Voltage	$V_{BE(sat) (1)}$	$I_C=150mA$ $I_B=15mA$	0.6		1.2	V
	$V_{BE(sat) (2)}$	$I_C=500mA$ $I_B=50mA$			2.0	V
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$ $f=1.0MHz$ $I_E=0$			8.0	pF
Transition Frequency	f_T	$I_C=20mA$ $f=100MHz$ $V_{CE}=20V$	300			MHz
Turn-On Time	t_{on}	$V_{CC}=30V$ $I_C=150mA$ $V_{BE}=-0.5V$ $I_{B1}=15mA$			35	ns
Turn-Off Time	t_{off}	$V_{CC}=30V$ $I_C=150mA$ $I_{B1}=I_{B2}=15mA$			285	ns

Electrical Characteristic Curve



Marking Instructions



Note:

H: Company Code

1P: Product Type.

** : Lot No. Code, code change with Lot No

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	56000	7" x12	180x120x180	385x257x392

Package Outline Dimensions

SOT-89

单位: mm

