

Descriptions

This is Silicon NPN transistor in a SOT-89 Plastic Package.

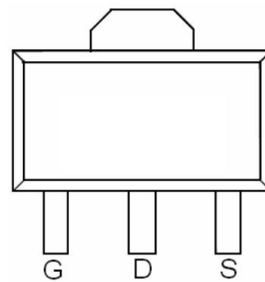
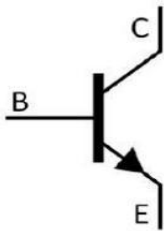
Features

- Low saturation voltage
- Complements the 2SB1132
- Halogen-free product

Applications

Medium power amplifier applications.

Equivalent Circuit & Pinning



SOT-89 top view

PIN1: Base

PIN 2: Collector

PIN 3: Emitter

Marking

H _{fe} Classifications Symbol	P	Q	R
h _{FE} Range	82~180	120~270	180~390
Marking	HDAP	HDAQ	HDAR

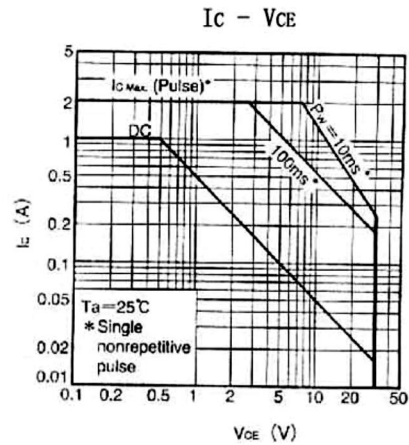
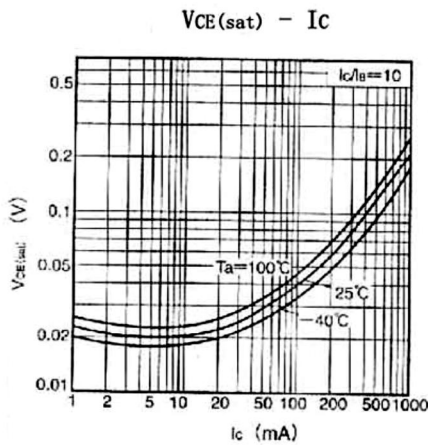
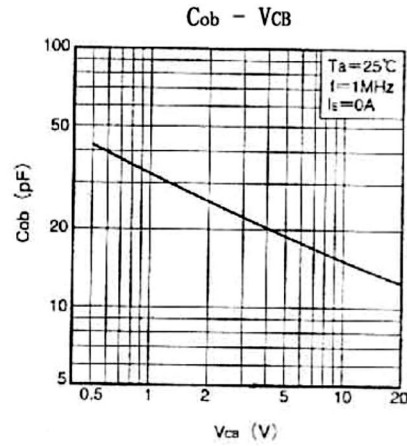
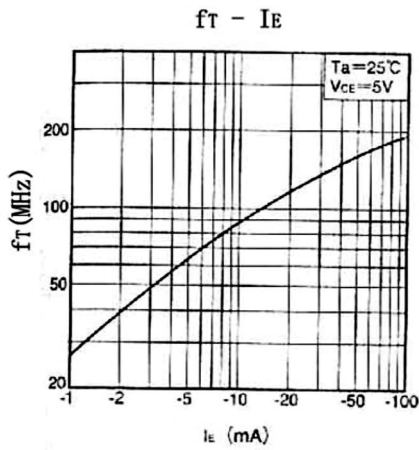
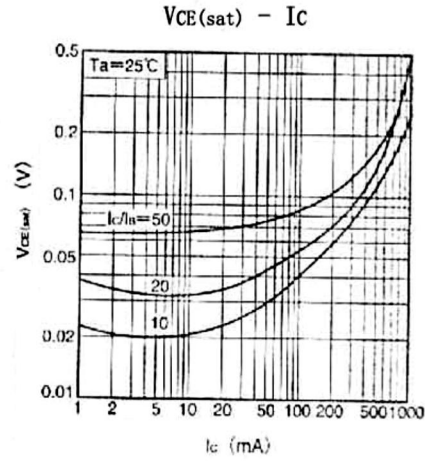
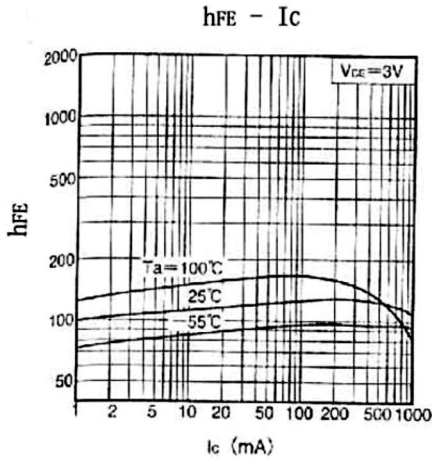
Absolute Maximum Ratings(Ta=25°C)

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 Base-Continuous(Pulse)	I_{CP}	2.0	A
Collector Power Dissipation	P_C	500	mW
Collector Power Dissipation	$P_C(T_c=25^\circ\text{C})$	2.0	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

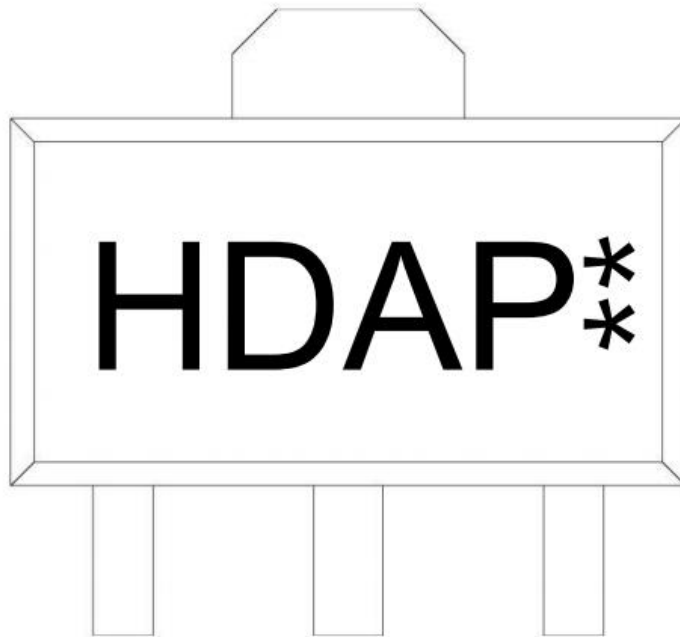
Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=50\mu\text{A}$ $I_E=0$	40			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=1.0\text{mA}$ $I_B=0$	32			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=50\mu\text{A}$ $I_C=0$	5.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=20\text{V}$ $I_E=0$			0.5	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=4.0\text{V}$ $I_C=0$			0.5	μA
DC Current Gain	h_{FE}	$V_{CE}=3.0\text{V}$ $I_C=100\text{mA}$	82		390	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500\text{mA}$ $I_B=50\text{mA}$		0.15	0.4	V
Transition Frequency	f_T	$V_{CE}=5.0\text{V}$ $f=100\text{MHz}$ $I_C=50\text{mA}$		150		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10\text{V}$ $f=1.0\text{MHz}$ $I_E=0$		15		pF

Electrical Characteristic Curve



Marking Instructions



- Note:
- H: Company Code
 - DA: 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	HDAP	HDAQ	HDAR

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	6	42,000	7" x12	180x120x180	390x385x205

Package Outline Dimensions

SOT-89

单位: mm

