

**Description**

Silicon NPN transistor in a SOT-89 Plastic Package

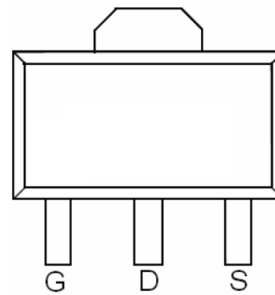
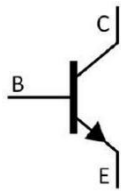
**Features**

- Low saturation voltage
- Excellent  $h_{FE}$  linearity and high  $h_{FE}$
- Halogen-free product

**Applications**

Output stage of 3 watts audio amplifier, voltage regulator, DC-DC converter and relay driver.

Symbol	Parameter	Max	Unit
$V_{CE0}$	collector-emitter voltage	30	V
$I_c$	collector current (DC)	3.0	A

**Equivalent Circuit & Pinning**


SOT-89 top view

PIN1: Base

PIN 2: Collector

PIN 3: Emitter

 **$h_{FE}$  Classifications & Marking**

$h_{FE}$ Classifications Symbol	R	Q	P	E
$h_{FE}$ Range	60~120	100~200	160~320	200~400
Marking	H82R	H82Q	H82P	H82E

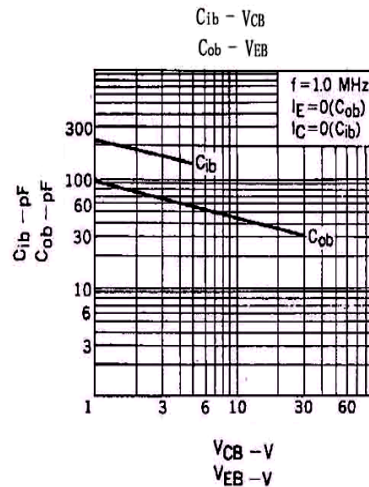
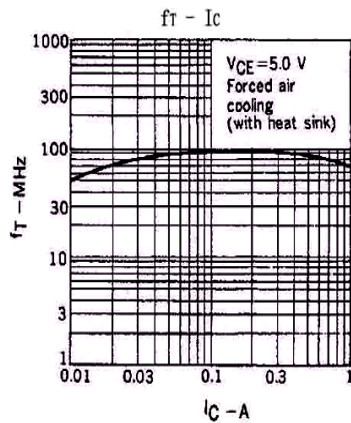
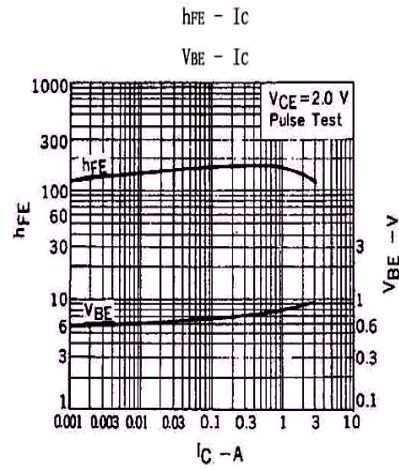
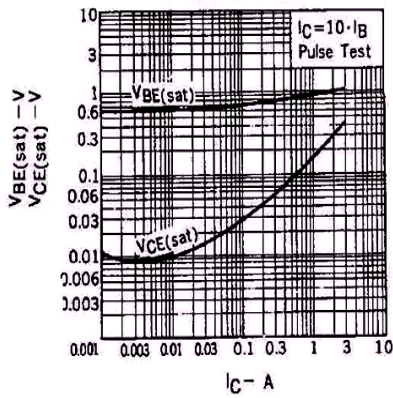
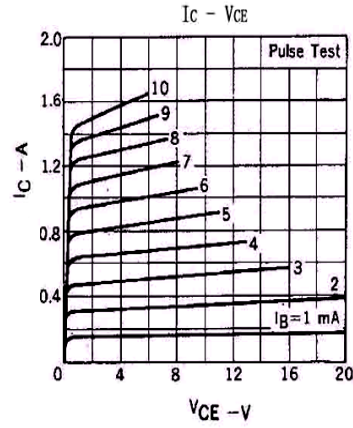
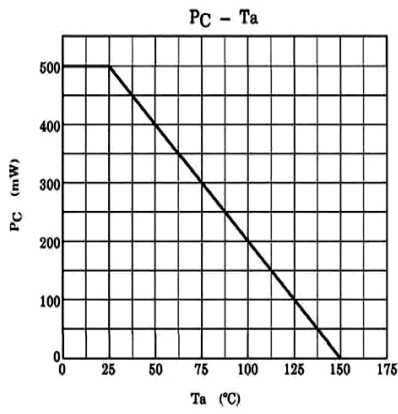
**Absolute Maximum Ratings(Ta=25°C)**

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CBO}$	40	V
Collector to Emitter Voltage	$V_{CEO}$	30	V
Emitter to Base Voltage	$V_{EBO}$	5.0	V
Collector Current-Continuous	$I_C$	3.0	A
Collector Power Dissipation	$P_C$	500	mW
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_{stg}$	-55~150	°C

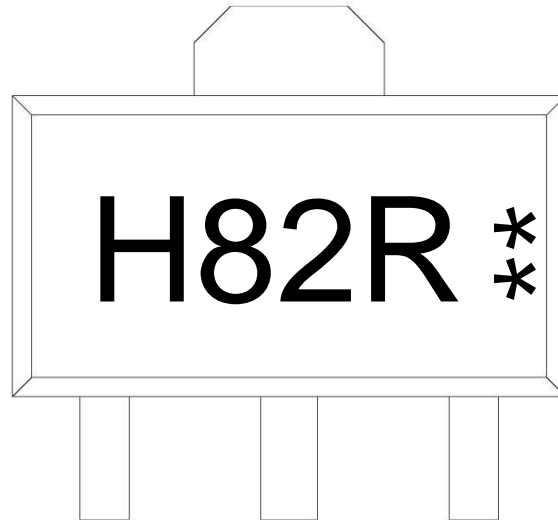
**Electrical Characteristics(Ta=25°C)**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=30V$ $I_E=0$			1.0	$\mu A$
Emitter Base Cut-Off Current	$I_{EBO}$	$V_{EB}=3.0V$ $I_C=0$			1.0	$\mu A$
DC Current Gain	$h_{FE(1)}$	$V_{CE}=2.0V$ $I_C=1.0A$	60	160	400	
	$h_{FE(2)}$	$V_{CE}=2.0V$ $I_C=20mA$	30	150		
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=2.0A$ $I_B=0.2A$		0.3	0.5	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=2.0A$ $I_B=0.2A$		1.0	2.0	V
Transition Frequency	$f_T$	$V_{CE}=5.0V$ $I_C=0.1A$		90		MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB}=10V$ $f=1.0MHz$ $I_E=0$		45		pF

Electrical Characteristic Curve



Marking Instructions



Note:

- H: Company Code
- 82: Product Type
- R:  $h_{FE}$  Classifications Symbol
- \*\* : Lot No. Code, code change with Lot No

$h_{FE}$ Classifications Symbol	R	Q	P	E
$h_{FE}$ Range	60~120	100~200	160~320	200~400
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Packaging SPEC.

REEL INFORMATION

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm <sup>3</sup> )		
	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	6	42000	7" x12	180x120x180	390x385x205

Package Outline Dimensions

SOT-89

单位: mm

