

**Description**

Silicon NPN transistor in a SOT-89 Plastic Package

**Applications**

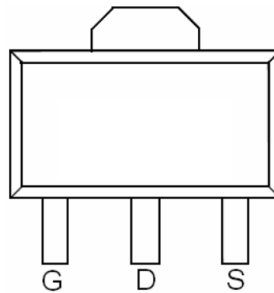
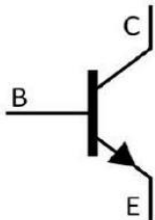
Low frequency power amplifier applications.

**Features**

- Low saturation voltage
- Excellent DC current gain characteristics
- Complements the 2SA1797
- Halogen-free product

Symbol	Parameter	Max	Unit
$V_{CE0}$	collector-emitter voltage	50	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 <sub>FE</sub> Classifications Symbol	P	Q
h <sub>FE</sub> Range	82~180	120~270
Marking	HDKP	HDKQ

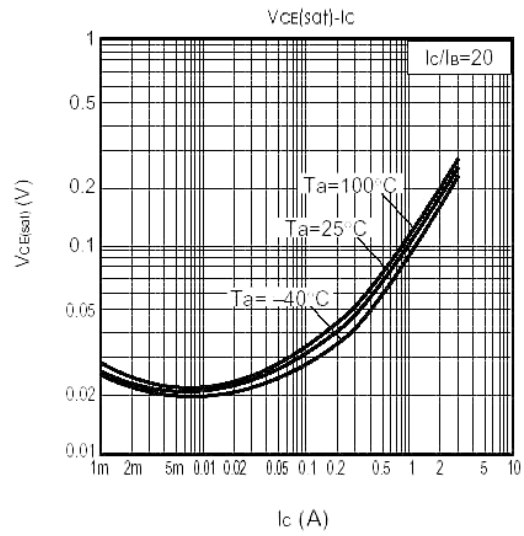
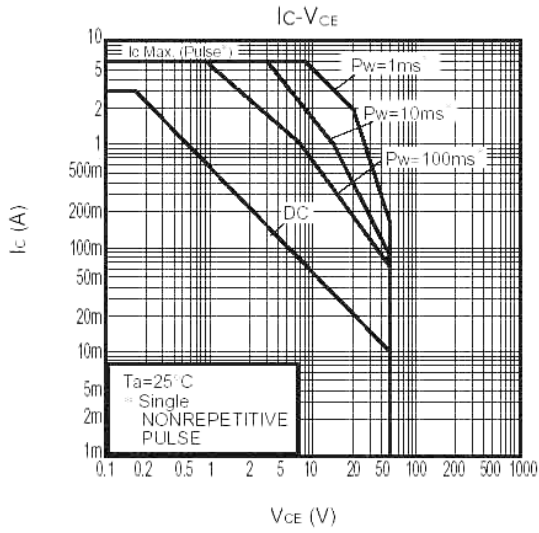
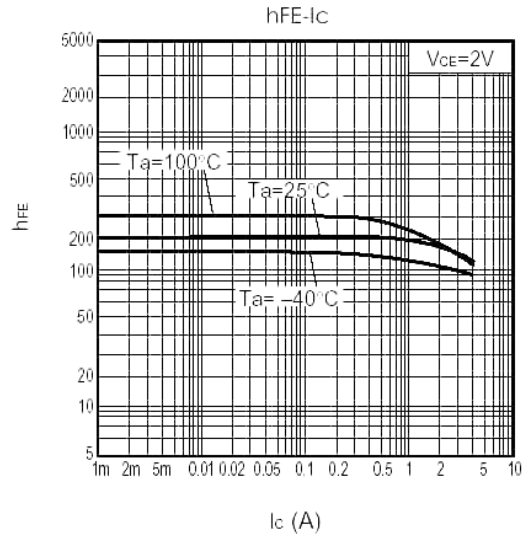
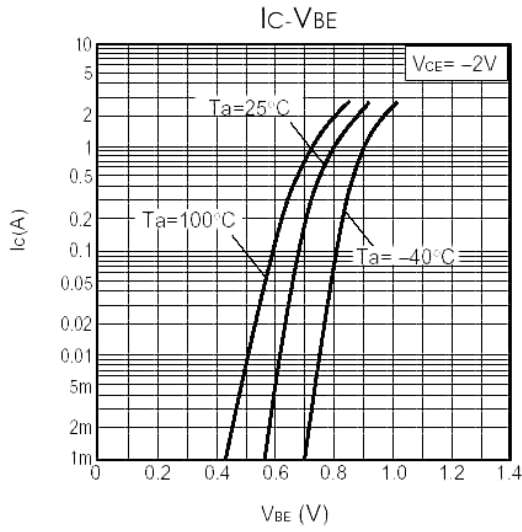
**Absolute Maximum Ratings(Ta=25°C)**

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CBO}$	60	V
Collector to Emitter Voltage	$V_{CEO}$	50	V
Emitter to Base Voltage	$V_{EBO}$	6.0	V
Collector Current - Continuous	$I_C$	3.0	A
Collector Current – Continuous(Pulse)	$I_{CP}$	6.0	A
Collector Power Dissipation	$P_C$	0.5	W
Collector Power Dissipation*	* $P_C$	2.0	W
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_{stg}$	-55~150	°C

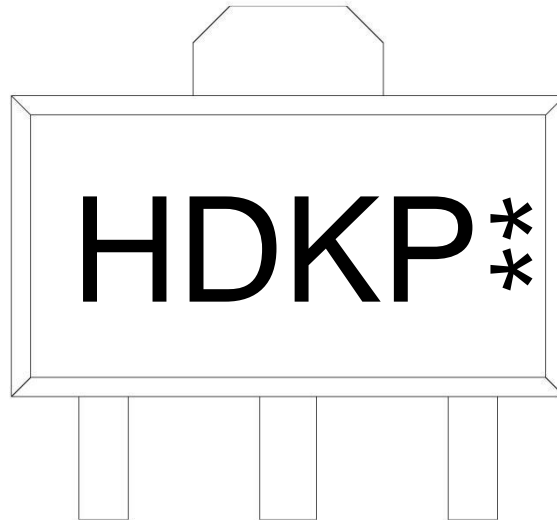
**Electrical Characteristics(Ta=25°C)**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	$V_{CBO}$	$I_C=50\mu A$	60			V
Collector to Emitter Breakdown Voltage	$V_{CEO}$	$I_C=1.0mA$	50			V
Emitter to Base Breakdown Voltage	$V_{EBO}$	$I_E=50\mu A$	6.0			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=60V$			0.1	$\mu A$
Emitter Base Cut-Off Current	$I_{EBO}$	$V_{EB}=5.0V$			0.1	$\mu A$
DC Current Gain	$h_{FE(1)}$	$V_{CE}=2.0V$ $I_C=500mA$	82		270	
	$h_{FE(2)}$	$V_{CE}=2.0V$ $I_C=1.5A$	45			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=1.0A$ $I_B=50mA$		0.13	0.35	V
Transition Frequency	$f_T$	$V_{CE}=2.0V$ $I_C=0.5A$ $f=100MHz$		210		MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB}=10V$ $f=1.0MHz$		25		pF

Electrical Characteristic Curve



Marking Instructions



Note:

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

$h_{FE}$ Classifications Symbol	P	Q
$h_{FE}$ Range	82~180	120~270
Marking	HDKP	HDKQ

Packaging SPEC.

REEL INFORMATION

Package Type	Units					Dimension (unit: mm <sup>3</sup> )		
	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

