

Description

Silicon NPN transistor in a SOT-23 Plastic Package

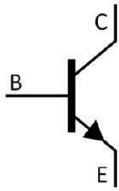
Features

- High voltage and high current
- Excellent hFE linearity
- Low noise
- Halogen-free Product

Applications

- Audio frequency general purpose
- Driver stage amplifier applications

Symbol	Parameter	Max	Unit
V_{CE0}	collector-emitter voltage	50	V
I_C	collector current (DC)	150	mA

Equivalent Circuit & Pinning


PIN1: Base

PIN 2: Emitter

PIN 3: Collector

hFE Classifications & Marking

hFE Classifications Symbol	O	Y	GR	BL
hFE Range	70~140	120~240	200~400	350~700
Marking	HHFO	HHFY	HHFG	HHFB

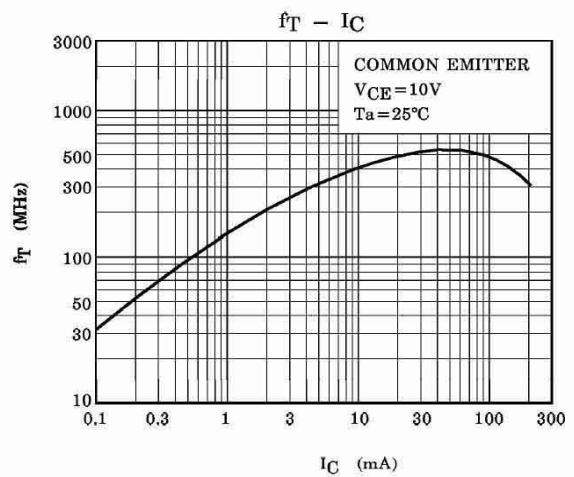
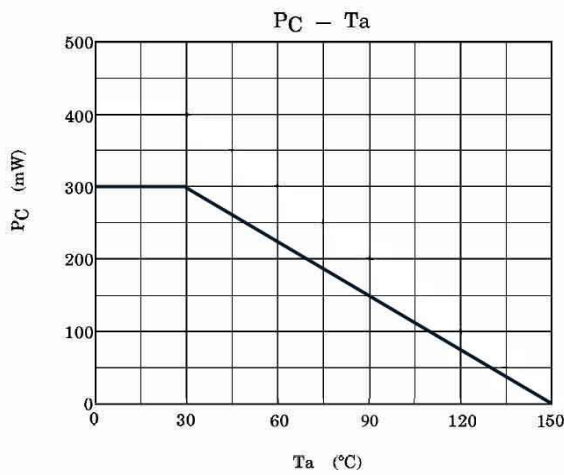
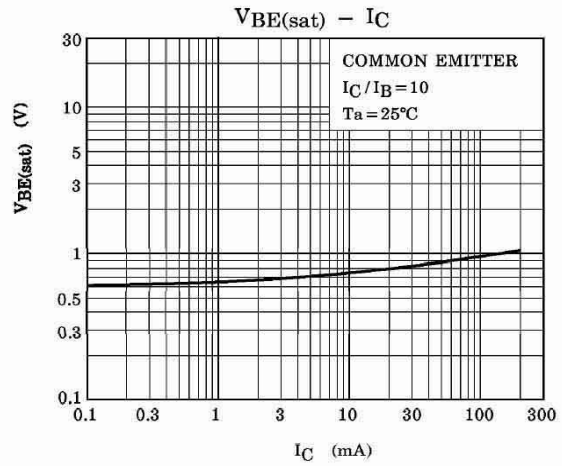
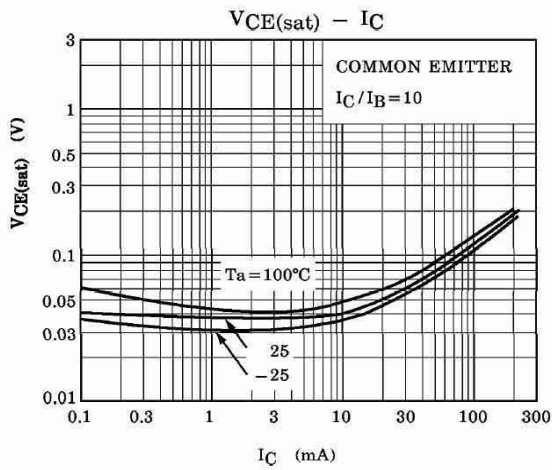
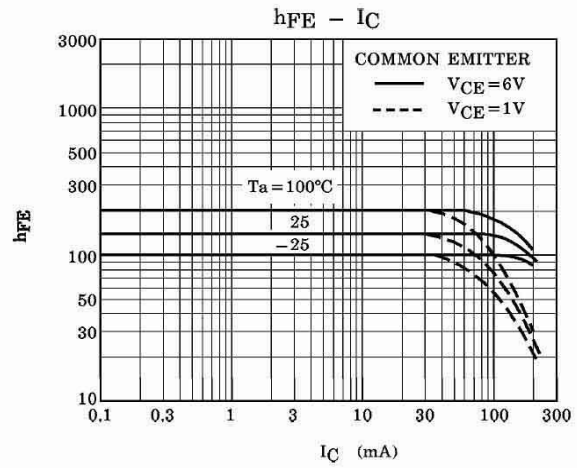
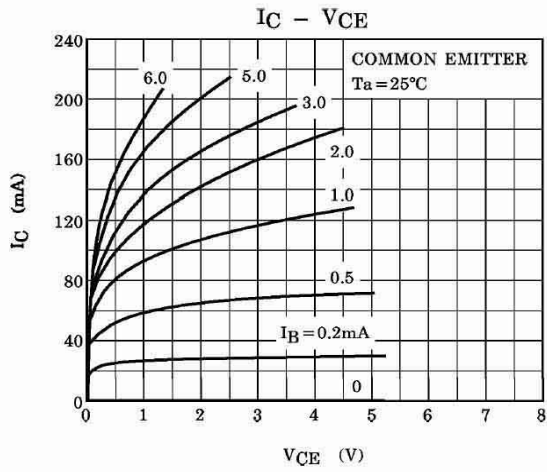
Absolute Maximum Ratings(Ta=25℃)

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}	5.0	V
Collector Current	I_C	150	mA
Base Current	I_B	50	mA
Collector Power Dissipation	P_C	300	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55~150	℃

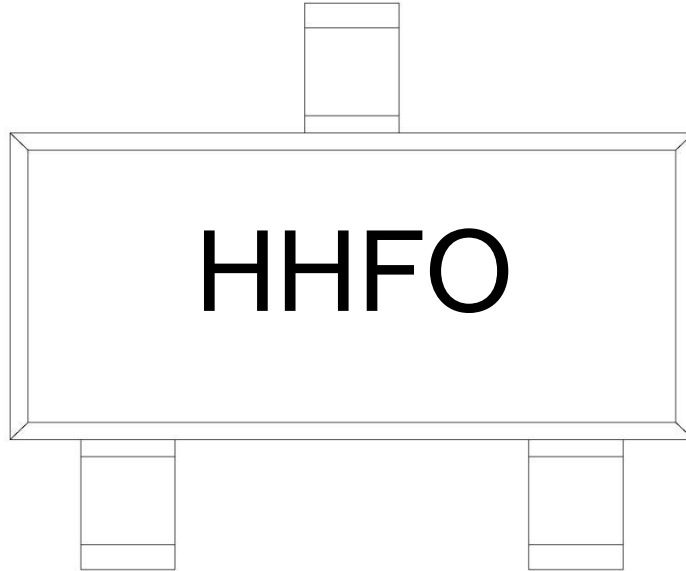
Electrical Characteristics(Ta=25℃)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I_{CBO}	$V_{CB}=60V$ $I_E=0$			0.1	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=5.0V$ $I_C=0$			0.1	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=6.0V$ $I_C=2.0mA$	70		700	
	$h_{FE(2)}$	$V_{CE}=6.0V$ $I_C=150mA$	25	100		
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100mA$ $I_B=10mA$		0.1	0.25	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=100mA$ $I_B=10mA$			1.0	V
Transition Frequency	f_T	$V_{CE}=10V$ $I_C=1.0mA$	80			MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$ $f=1.0MHz$ $I_E=0$		2.0	3.5	pF
Base Intrinsic Resistance	r_{bb}	$V_{CB}=10V$ $f=30MHz$ $I_C=1.0mA$		50		Ω
Noise Figure	NF	$V_{CE}=6.0V$ $R_g=10K\Omega$ $I_C=0.1mA$ $f=1.0KHz$		1.0	10	dB

Electrical Characteristic Curve



Marking Instructions



Note:

- H: Company Code
- HF: Product Type Code
- O: h_{FE} Classifications Symbol Code

h_{FE} Classifications Symbol	O	Y	GR	BL
h_{FE} Range	70~140	120~240	200~400	350~700
Marking	HHFO	HHFY	HHFG	HHFB

Packaging SPEC.

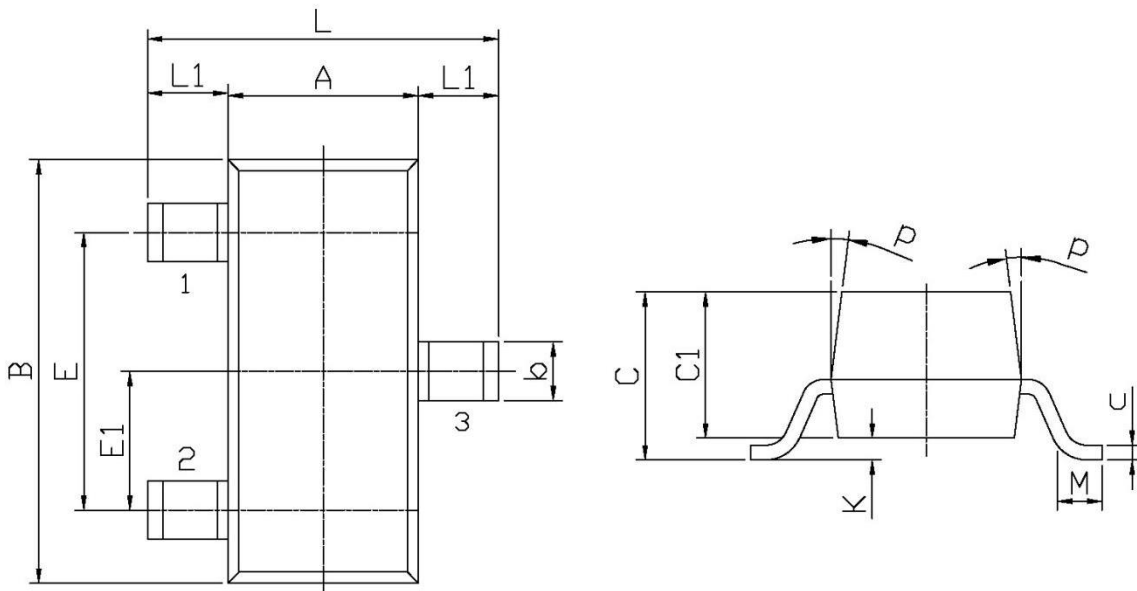
REEL INFORMATION

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-23	3,000	10	30,000	6	180,000	7" x8	180x120x180	390x385x205

Package Outline Dimensions

SOT-23

单位: mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.2	2.7	C	1.30Max	
L1	0.45	0.65	C1	0.90	1.20
A	1.15	1.50	c	0.05	0.20
B	2.70	3.10	K	0	0.10
E	1.70	2.10	M	0.20MIN	
E1	0.85	1.05	P	7°	
b	0.35	0.55			