

Descriptions

Silicon NPN transistor in a SOT-23 Plastic Package

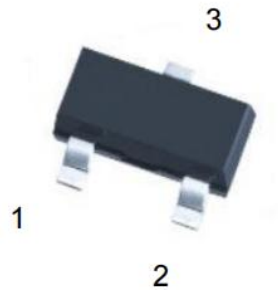
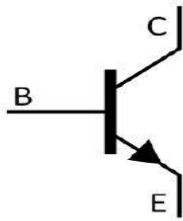
Features

- High voltage
- complementary pair with CTBC857M
- Halogen-free product

Applications

General power amplifier and switching application

Equivalent Circuit & Pinning



PIN1: Base

PIN 2: Emitter

PIN 3: Collector

hFE Classifications & Marking

h _{FE} Classifications Symbol	A	B	C
h _{FE} Range	110~220	200~450	420~800
Marking	H1E	H1F	H1G

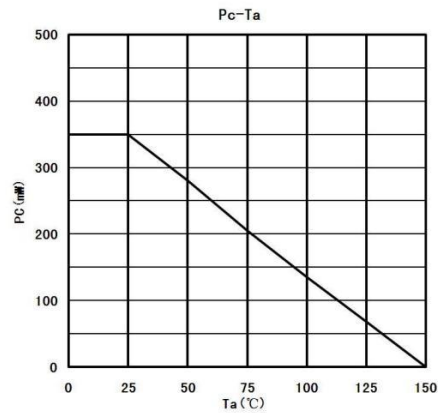
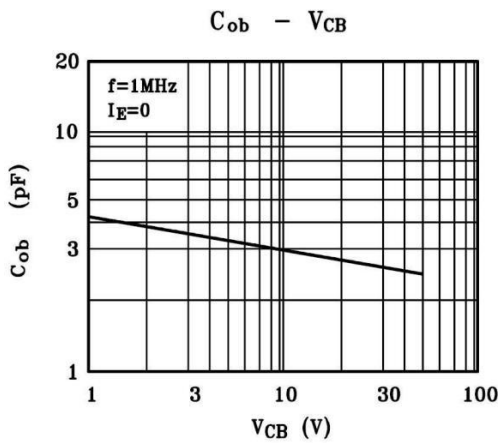
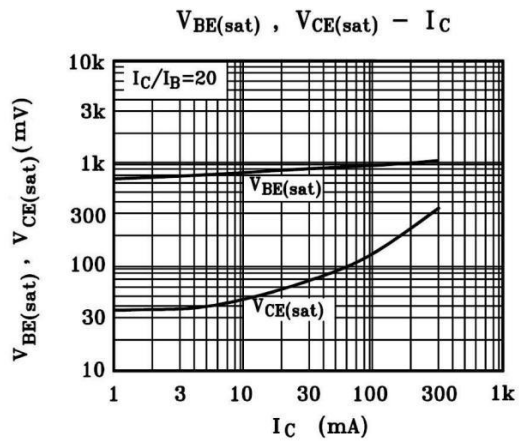
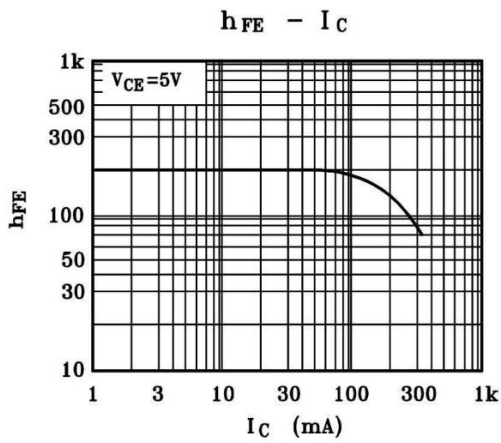
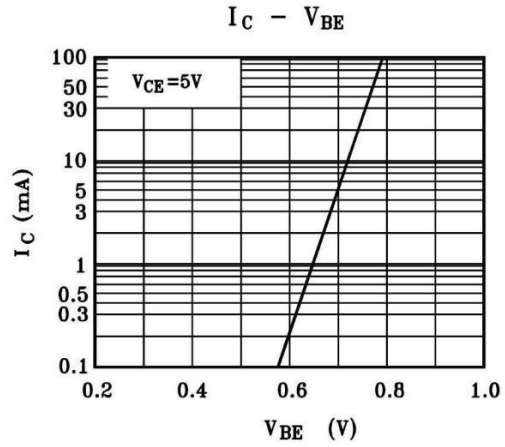
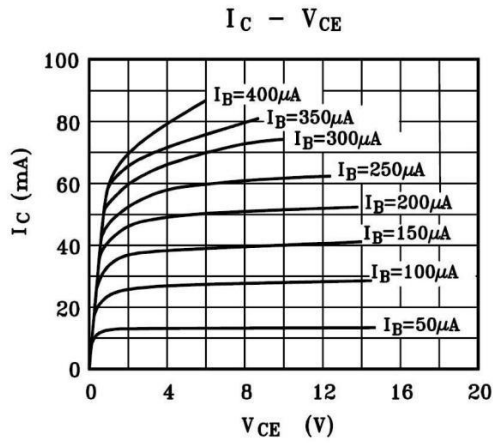
Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	50	V
Collector to Emitter Voltage	V_{CEO}	45	V
Emitter to Base Voltage	V_{EBO}	6.0	V
Collector Current - Continuous	I_C	100	mA
Collector Power Dissipation	P_C	350	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

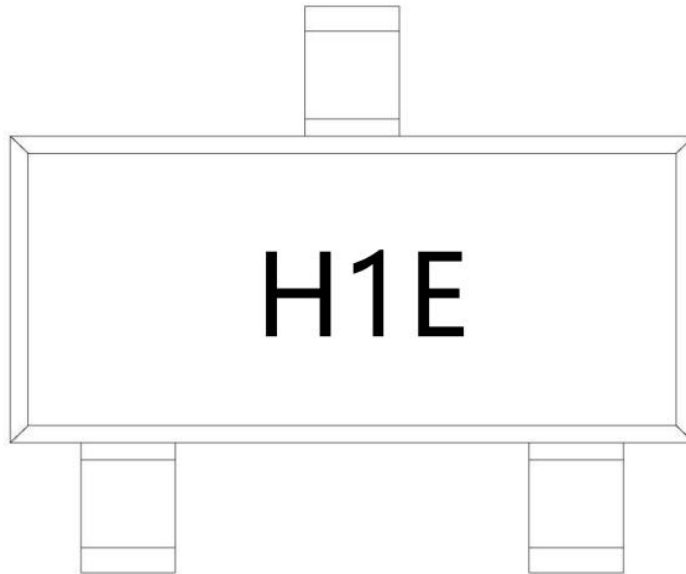
Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I_{CBO}	$V_{CB}=30V$ $I_E=0$			0.015	μA
DC Current Gain	h_{FE}	$V_{CE}=5.0V$ $I_C=2.0mA$	110		800	
Collector to Emitter Saturation Voltage	$V_{CE(sat)1}$	$I_C=10mA$ $I_B=0.5mA$		0.09	0.25	V
	$V_{CE(sat)2}$	$I_C=100mA$ $I_B=5.0mA$		0.2	0.6	V
Base to Emitter Saturation Voltage	$V_{BE(sat)1}$	$I_C=10mA$ $I_B=0.5mA$		0.7		V
	$V_{BE(sat)2}$	$I_C=100mA$ $I_B=5.0mA$		0.9		V
Base to Emitter Voltage	$V_{BE(on)1}$	$V_{CE}=5.0V$ $I_C=2.0mA$	0.58		0.7	V
	$V_{BE(on)2}$	$V_{CE}=5.0V$ $I_C=10mA$			0.75	V
Transition Frequency	f_T	$V_{CE}=5.0V$ $I_C=10mA$ $f=100MHz$		300		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$ $I_E=0$ $f=1.0MHz$		2.5	4.5	pF
Noise Figure	NF	$V_{CE}=6.0V$ $I_C=0.1mA$ $R_g=10K\Omega$ $f=1.0KHz$		1.0	10	dB

Electrical Characteristic Curve



Marking Instructions



Note:

H: Company Code.

1E: Product Type Code

h_{FE} Classifications Symbol	A	B	C
h_{FE} Range	110~220	200~450	420~800
Marking	H1E	H1F	H1G

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

