

**Description**

Silicon NPN transistor in a SOT-23 Plastic Package

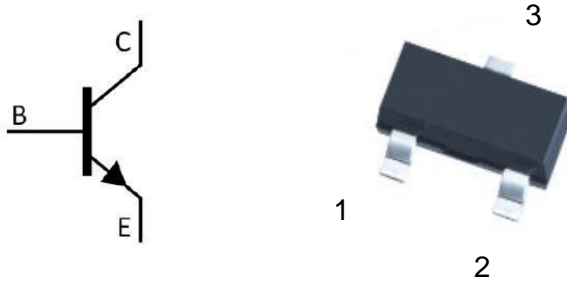
**Applications**

Amplifier of portable radios in class B push-pull operation

**Features**

- High  $P_C$  and  $h_{FE}$ , excellent  $h_{FE}$  linearity
- complementary pair with CT9012M

Symbol	Parameter	Max	Unit
$V_{CE0}$	collector-emitter voltage	20	V
$I_C$	collector current (DC)	500	mA

**Equivalent Circuit & Pinning**


PIN1: Base

PIN 2: Emitter

PIN 3: Collector

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

$h_{FE}$ Classifications Symbol	D	E	F	G	H	I
$h_{FE}$ Range	64~91	78~112	96~135	112~166	144~202	188~276
Marking	HJ3D	HJ3E	HJ3F	HJ3G	HJ3H	HJ3I

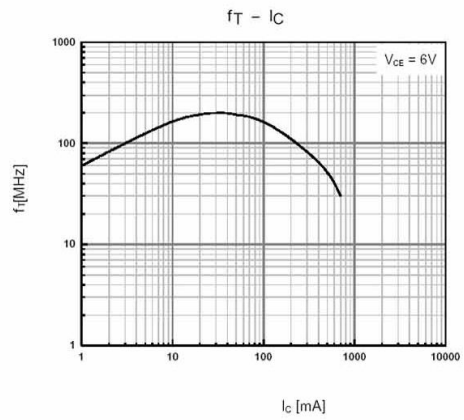
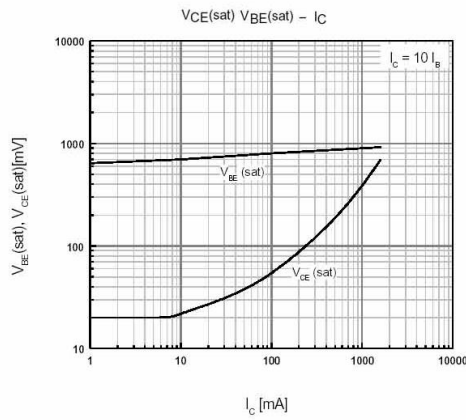
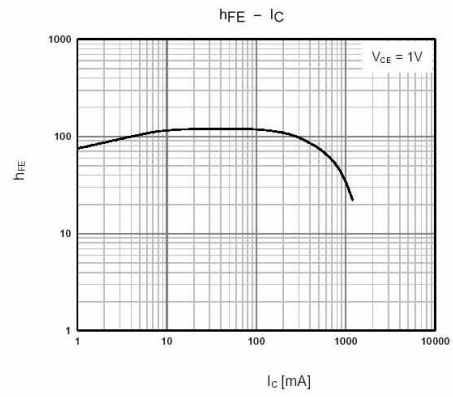
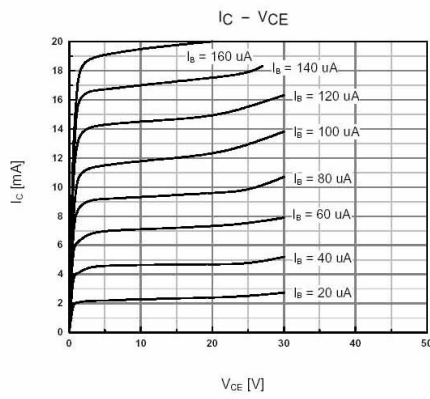
**Absolute Maximum Ratings(Ta=25°C)**

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CBO}$	40	V
Collector to Emitter Voltage	$V_{CEO}$	20	V
Emitter to Base Voltage	$V_{EBO}$	5.0	V
Collector Current	$I_C$	500	mA
Base Current	$I_B$	100	mA
Collector Power Dissipation	$P_C$	450	mW
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_{stg}$	-55~150	°C

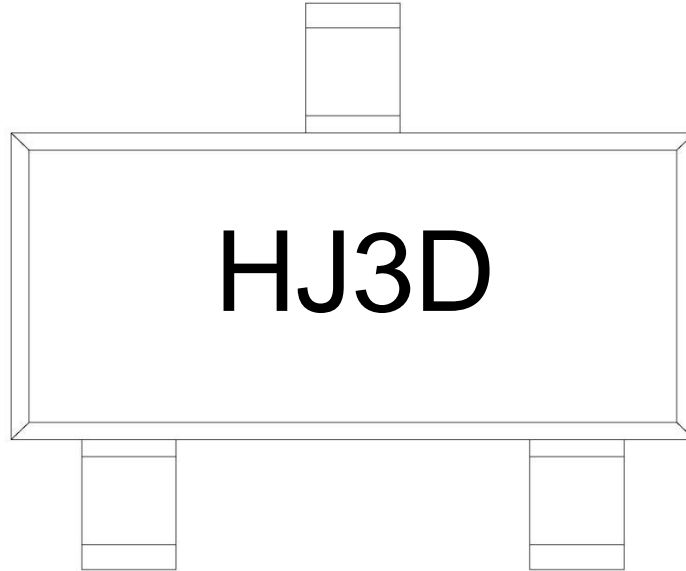
**Electrical Characteristics(Ta=25°C)**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	$V_{CBO}$	$I_C=0.1mA$ $I_E=0$	40			V
Collector to Emitter Breakdown Voltage	$V_{CEO}$	$I_C=1.0mA$ $I_B=0$	20			V
Emitter to Base Breakdown Voltage	$V_{EBO}$	$I_E=0.1mA$ $I_C=0$	5.0			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=25V$ $I_E=0$			0.1	μA
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=3.0V$ $I_C=0$			0.1	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=1.0V$ $I_C=50mA$	150		300	
	$h_{FE(2)}$	$V_{CE}=1.0V$ $I_C=500mA$	40			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500mA$ $I_B=50mA$		0.16	0.6	V
Base-Emitter saturation Voltage	$V_{BE(sat)}$	$I_C=500mA$ $I_B=50mA$		0.91	1.2	V
Base-Emitter Voltage	$V_{BE}$	$V_{CE}=1.0V$ $I_C=10mA$		0.67	0.7	V

Electrical Characteristic Curve



Marking Instructions



Note:

- H: Company Code
- J3: Product Type Code
- D:  $h_{FE}$  Classifications Symbol Code

$h_{FE}$ Classifications Symbol	D	E	F	G	H	I
$h_{FE}$ Range	64~91	78~112	96~135	112~166	144~202	188~276
Marking	HJ3D	HJ3E	HJ3F	HJ3G	HJ3H	HJ3I

Packaging SPEC.

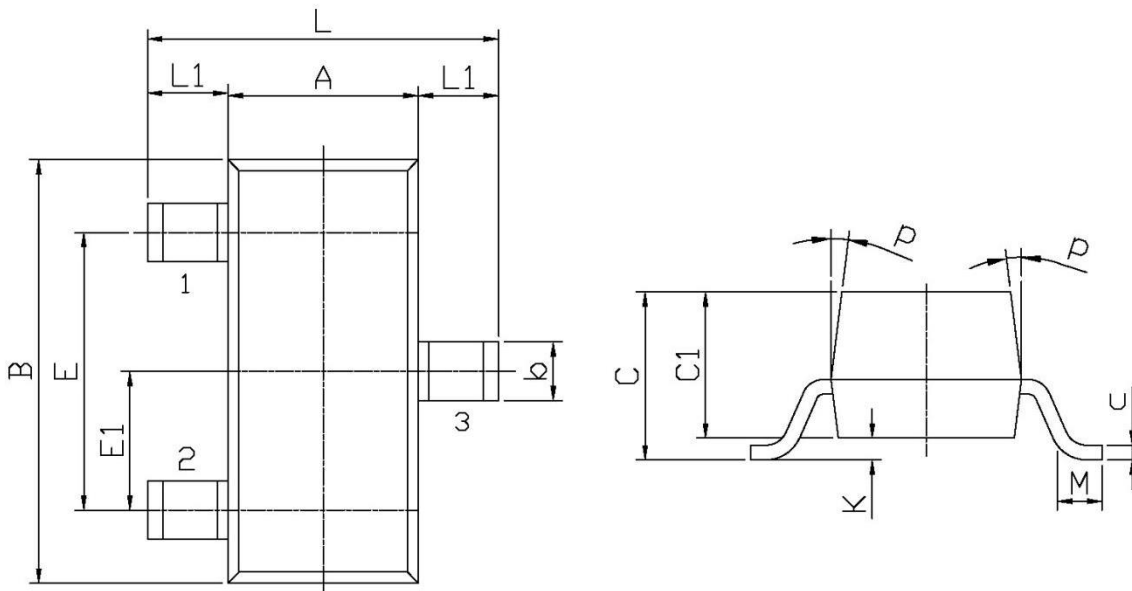
REEL INFORMATION

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-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			