



2SB1424

Preliminary

PNP SILICON TRANSISTOR

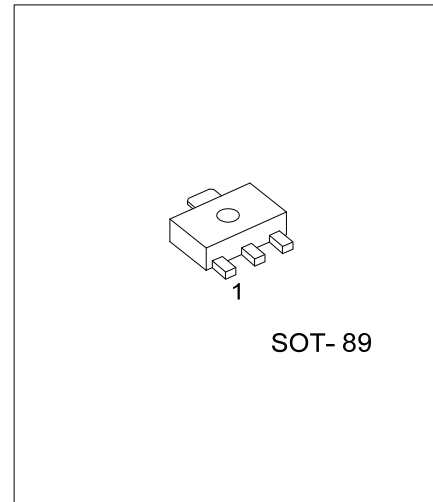
LOW $V_{CE(SAT)}$ TRANSISTOR

DESCRIPTION

As the UTC PNP silicon transistor, the **2SB1424** is the epitaxial planar type transistor which has very low $V_{CE(SAT)}$ (Collector-emitter saturation voltage).

FEATURES

- * Very good DC current gain
- * Very low $V_{CE(SAT)} = -0.2V @ I_C/I_B = (-2A)/(-0.1A)$



Lead-free: 2SB1424L

Halogen-free: 2SB1424G

ORDERING INFORMATION

Ordering Number			Package	Pin Assignment			Packing
Normal	Lead Free	Halogen Free		1	2	3	
2SB1424-x-AB3-R	2SB1424L-x-AB3-R	2SB1424G-x-AB3-R	SOT-89	B	C	E	Tape Reel

<p>2SB1424L-x-AB3-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Rank</p> <p>(4) Lead Plating</p>	<p>(1) R: Tape Reel</p> <p>(2) AB3: SOT-89</p> <p>(3) x: refer to Classification of h_{FE}</p> <p>(4) G: Halogen Free, L: Lead Free, Blank: Pb/Sn</p>
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■ ABSOLUTE MAXIMUM RATING ($T_a=25^{\circ}\text{C}$)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	-20	V
Collector-Emitter Voltage	V_{CEO}	-20	V
Emitter-Base Voltage	V_{EBO}	-6	V
Collector Current	DC	-3	A
	Pulse(Note 2)	-5	
Collector Dissipation	P_{C}	0.5	W
Junction Temperature	T_{J}	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^{\circ}\text{C}$

Note: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

2. Pulse test: Pulse Width=10ms

■ ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_{\text{C}}=-50\mu\text{A}$, $I_{\text{E}}=0$	-20			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_{\text{C}}=-1\text{mA}$, $I_{\text{B}}=0$	-20			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_{\text{E}}=-50\mu\text{A}$, $I_{\text{C}}=0$	-6			V
Collector Cutoff Current	I_{CBO}	$V_{\text{CB}}=-20\text{V}$			-0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{\text{EB}}=-5\text{V}$			-0.1	μA
ON CHARACTERISTICS						
DC Current Gain	h_{FE}	$V_{\text{CE}}=-2\text{V}$, $I_{\text{C}}=-0.1\text{A}$	120		390	
Collector-Emitter Saturation Voltage	$V_{\text{CE(SAT)}}$	$I_{\text{C}}/I_{\text{B}}=(-2\text{A})/(-0.1\text{A})$			-0.5	V
SMALL-SIGNAL CHARACTERISTICS						
Current Gain Bandwidth Product	f_{T}	$V_{\text{CE}}=-2\text{V}$, $I_{\text{E}}=0.5\text{A}$, $f=100\text{MHz}$		240		MHz
Output Capacitance	C_{ob}	$V_{\text{CB}}=-10\text{V}$, $I_{\text{E}}=0$, $f=1\text{MHz}$		35		pF

■ CLASSIFICATION OF h_{FE1}

RANK	Q	R
RANGE	120-270	180-390

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