

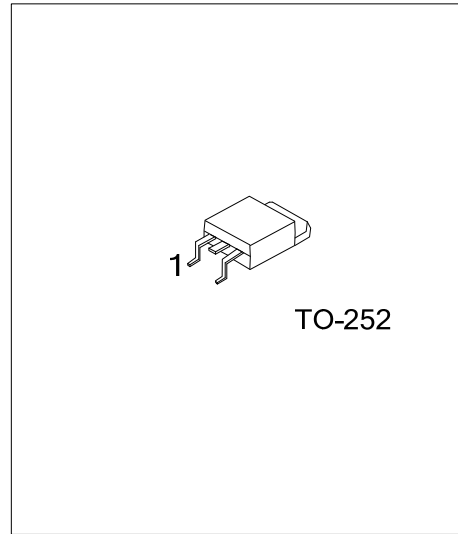


2SB936/A

Preliminary

PNP EPITAXIAL SILICON TRANSISTOR

**SILICON PNP EPITAXIAL
PLANAR TYPE**



■ DESCRIPTION

The UTC **2SB936/A** is a silicon PNP epitaxial planar type, it uses UTC's advanced technology to provide the customers with high DC current gain, low collector to emitter saturation voltage and high switch speed, etc.

The UTC **2SB936/A** is suitable for small electronic equipment and printed circuit board, etc.

■ FEATURES

- * High DC current gain
- * Low collector to emitter saturation voltage
- * High switch speed

■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SB936L-TN3-R	2SB936G-TN3-R	TO-252	B	C	E	Tape Reel
2SB936AL-TN3-R	2SB936AG-TN3-R	TO-252	B	C	E	Tape Reel

Note: Pin Assignment: B: Base C: Collector E: Emitter

<p>2SB936AL-x-TN3-R</p> <p>(1)Packing Type (2)Package Type (3)Rank (4)Green Package (5)Collector-Base Voltage</p>	<p>(1) R: Tape Reel (2) TN3: TO-252 (3) x: refer to Classification of h_{FE2} (4) G: Halogen Free and Lead Free, L: Lead Free (5) A: -50V, Blank: -40V</p>
---	---

■ MARKING

2SB936	2SB936A
<p>UTC 2SB936□ □□□□□□</p> <p>Lot Code ← □ □ □ □ □ □ → Data Code</p> <p>L: Lead Free G: Halogen Free</p> <p>1</p>	<p>UTC 2SB936A□ □□□□□□</p> <p>Lot Code ← □ □ □ □ □ □ → Data Code</p> <p>L: Lead Free G: Halogen Free</p> <p>1</p>

■ ABSOLUTE MAXIMUM RATINGS ($T_C=25^\circ\text{C}$)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	2SB936	-40	V
	2SB936A	-50	V
Collector-Emitter Voltage	2SB936	-20	V
	2SB936A	-40	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-10	A
Peak Collector Current	I_{CP}	-20	A
Collector Power Dissipation	$T_C=25^\circ\text{C}$	40	W
	$T_A=25^\circ\text{C}$	1.3	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^\circ\text{C}$

Note: 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.

■ ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	2SB936	$I_C=-10\text{mA}, I_E=0$	-40			V
	2SB936A		-50			V
Collector-Emitter Voltage	2SB936	$I_C=-10\text{mA}, I_B=0$	-20			V
	2SB936A		-40			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_C=-10\text{mA}, I_C=0$	-5			V
Collector Cut-Off Current	2SB936	$V_{CB}=-40\text{V}, I_E=0$			-50	μA
	2SB936A	$V_{CB}=-50\text{V}, I_E=0$			-50	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=-5\text{V}, I_C=0$			-50	μA
DC Current Gain	h_{FE1}	$V_{CE}=-2\text{V}, I_C=-0.1\text{A}$	45			
	h_{FE2}	$V_{CE}=-2\text{V}, I_C=-3\text{A}$	90		260	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-10\text{A}, I_B=-0.33\text{A}$			-0.6	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-10\text{A}, I_B=-0.33\text{A}$			-1.5	V
Transition Frequency	f_T	$V_{CE}=-10\text{V}, f=10\text{MHz}, I_C=-0.5\text{A}$		100		MHz
Output Capacitance	C_{ob}	$V_{CB}=-10\text{V}, f=1\text{MHz}, I_E=0$		400		pF
Turn-On Time	t_{on}	$I_C=-3\text{A}, I_{B1}=-0.1\text{A}, I_{B2}=0.1\text{A}$		0.1		μs
Storage Time	t_s			0.5		μs
Fall Time	t_r			0.1		μs

■ CLASSIFICATION OF h_{FE2}

RANK	Q	P
h_{FE2}	90 ~ 180	130 ~ 260

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.