



2SA1300

PNP EPITAXIAL SILICON TRANSISTOR

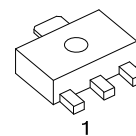
SILICON PNP EPITAXIAL TYPE

DESCRIPTION

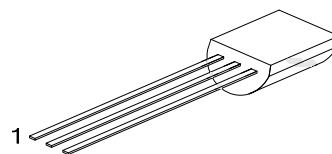
- * Strobe Flash Applications.
- * Medium Power Amplifier Applications.

FEATURES

- * High DC Current Gain and Excellent h_{FE} Linearity.
- * $h_{FE(1)}=140-600$, ($V_{CE}=-1V, I_C=-0.5A$)
- * $h_{FE(2)}=60(\text{Min.}), 120(\text{Typ.}), (V_{CE}=-1V, I_C=-4A)$
- * Low Saturation Voltage
- * $V_{CE(SAT)}=-0.5V(\text{Max.}), (I_C=-2A, I_E=-50mA)$



SOT-89



TO-92

ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SA1300L-xx-AB3-R	2SA1300G-xx-AB3-R	SOT-89	B	C	E	Tape Reel
2SA1300L-xx-T92-B	2SA1300G-xx-T92-B	TO-92	E	C	B	Tape Box
2SA1300L-xx-T92-K	2SA1300G-xx-T92-K	TO-92	E	C	B	Bulk
2SA1300L-xx-T92-R	2SA1300G-xx-T92-R	TO-92	E	C	B	Tape Reel

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

<p>2SA1300L-xx-AB3-R</p> <p>(1) Packing Type (2) Package Type (3) Rank (4) Lead Free</p>	<p>(1) R: Tape Reel, B: Tape Box, K: Bulk (2) AB3: SOT-89, T92: TO-92 (3) xx: Refer to Classification of h_{FE1} (4) G: Halogen Free, L: Lead Free</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_{CES}	-20	V
		V_{CEO}	-10	
Emitter-Base Voltage		V_{EBO}	-6	V
Collector Current	DC	I_C	-2	A
	Pulsed (Note 1)	I_{CP}	-5	
Base Current		I_B	-2	A
Collector Power Dissipation		P_C	750	mW
Junction Temperature		T_J	150	°C
Storage Temperature		T_{STG}	-40 ~ +150	°C

Note 1. Pulse Width= 10ms(Max.), Duty Cycle=30%(Max.)

- 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.
- The device is guaranteed to meet performance specification within $0^\circ\text{C} \sim 70^\circ\text{C}$ operating temperature range and assured by design from $-20^\circ\text{C} \sim 85^\circ\text{C}$.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}$, $I_B=0$	-10			V
Emitter-collector breakdown voltage	$V_{(BR)EBO}$	$I_E=-1\text{mA}$, $I_C=0$	-6			V
Collector cut-off current	I_{CBO}	$V_{CE} = -20\text{V}$, $I_E=0$			-100	nA
Emitter cut-off current	I_{EBO}	$V_{BE} = -6\text{V}$, $I_C=0$			-100	nA
DC current Gain	h_{FE1}	$V_{CE} = -1\text{V}$, $I_C=0.5\text{A}$	140		600	
	h_{FE2}	$V_{CE} = -1\text{V}$, $I_C = -4\text{A}$	60	120		
Collector-emitter saturation voltage	$V_{CE(SAT)}$	$I_C = -2\text{A}$, $I_B = -50\text{mA}$		-0.2	-0.5	V
Base-emitter voltage	V_{BE}	$V_{CE} = -1\text{V}$, $I_C = -2\text{A}$		-0.83	-1.5	V
Current gain bandwidth product	f_T	$V_{CE} = -1\text{V}$, $I_C = -0.5\text{A}$		140		MHz
Output capacitance	C_{OB}	$V_{CE} = -10\text{V}$, $I_E=0$, $f=1\text{MHz}$		50		pF

■ CLASSIFICATIONS OF h_{FE1}

RANK	Y	GR	BL
RANGE	140-280	200-400	300-600

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