



## 2N5401

## PNP SILICON TRANSISTOR

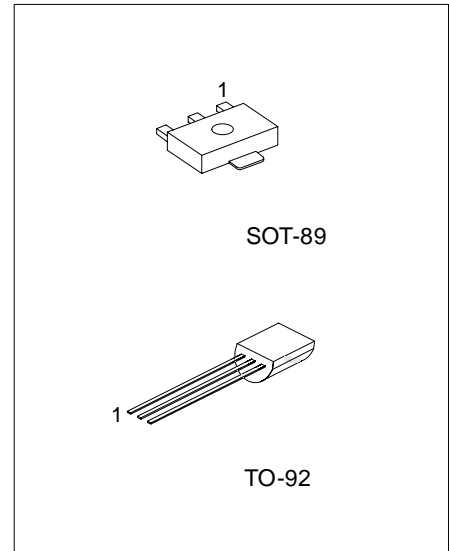
### HIGH VOLTAGE SWITCHING TRANSISTOR

#### ■ FEATURES

\* Collector-emitter voltage:

$V_{CE0} = -150V$

\* High current gain



\*Pb-free plating product number:2N5401L

#### ■ ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
2N5401-x-AB3-R	2N5401L-x-AB3-R	SOT-89	B	C	E	Tape Reel
2N5401-x-T92-B	2N5401L-x-T92-B	TO-92	E	B	C	Tape Box
2N5401-x-T92-K	2N5401L-x-T92-K	TO-92	E	B	C	Bulk

<p>2N5401L-x-AB3-R</p> <p>(1)Packing Type (2)Package Type (3)Rank (4)Lead Plating</p>	<p>(1) B: Tape Box, K: Bulk, R: Tape Reel (2) AB3: SOT-89, T92: TO-92 (3) x: refer to Classification of <math>h_{FE}</math> (4) L: Lead Free Plating Blank: Pb/Sn</p>
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■ ABSOLUTE MAXIMUM RATING (Ta=25°C , unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	$V_{CBO}$	-160	V
Collector-Emitter Voltage	$V_{CEO}$	-150	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Collector Current	$I_C$	-600	mA
Collector Dissipation	TO-92	625	mW
	SOT-89	500	mW
Junction Temperature	$T_J$	+150	
Storage Temperature	$T_{STG}$	-55 ~ +150	

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 (Ta=25°C, unless otherwise specified)

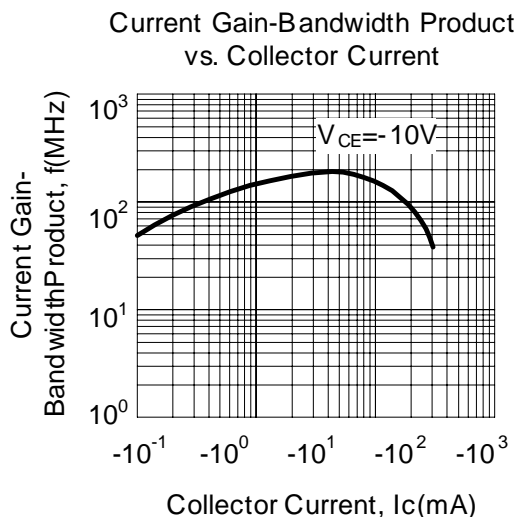
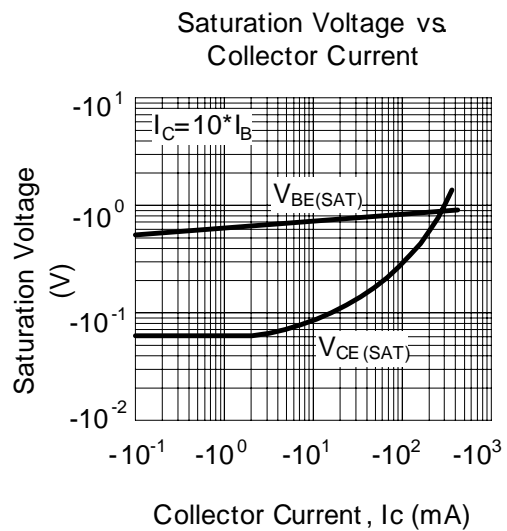
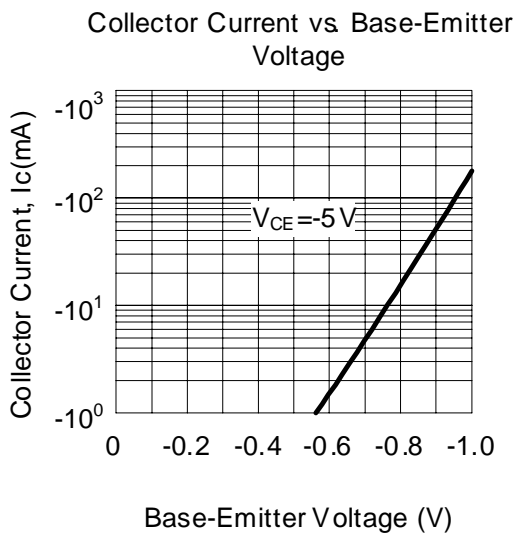
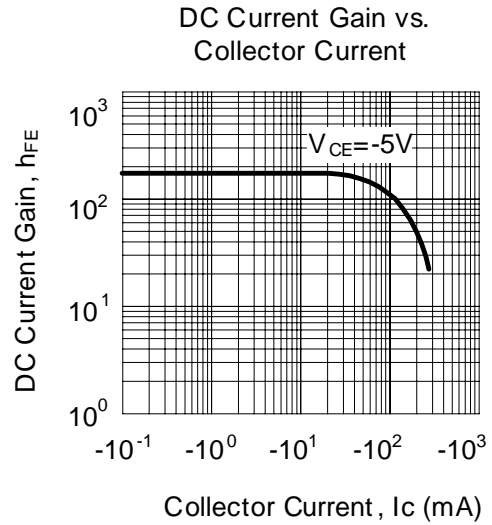
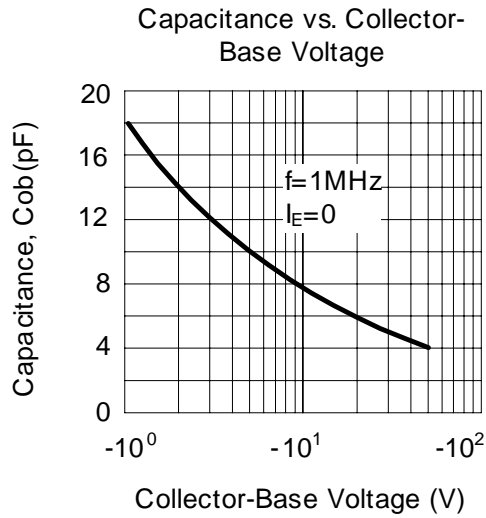
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C = -100\mu A, I_E = 0$	-160			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C = -1mA, I_B = 0$	-150			V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E = -10\mu A, I_C = 0$	-6			V
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = -120V, I_E = 0$			-50	nA
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = -3V, I_C = 0$			-50	nA
DC Current Gain(Note)	$h_{FE1}$	$V_{CE} = -5V, I_C = -1mA$	80		400	
	$h_{FE2}$	$V_{CE} = -5V, I_C = -10mA$	80			
	$h_{FE3}$	$V_{CE} = -5V, I_C = -50mA$	80			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = -10mA, I_B = -1mA$ $I_C = -50mA, I_B = -5mA$			-0.2 -0.5	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C = -10mA, I_B = -1mA$ $I_C = -50mA, I_B = -5mA$			-1 -1	V
Current Gain Bandwidth Product	$f_T$	$V_{CE} = -10V, I_C = -10mA$ $f = 100MHz$	100		400	MHz
Output Capacitance	$C_{ob}$	$V_{CB} = -10V, I_E = 0, f = 1MHz$			6.0	pF
Noise Figure	NF	$I_C = -0.25mA, V_{CE} = -5V$ $R_S = 1k\Omega, f = 10Hz \sim 15.7kHz$			8	dB

Note: Pulse test: PW<300μs, Duty Cycle<2%

■ CLASSIFICATION OF  $h_{FE}$

RANK	A	B	C
RANGE	80-170	150-240	200-400

■ TYPICAL CHARACTERISTICS



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