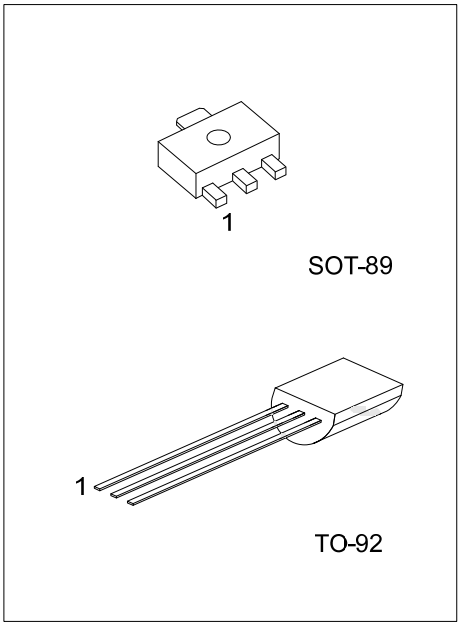
2N5401

PNP SILICON TRANSISTOR

HIGH VOLTAGE SWITCHING TRANSISTOR



■ FEATURES

* Collector-emitter voltage: V_{CEO} = -150V
* High current gain

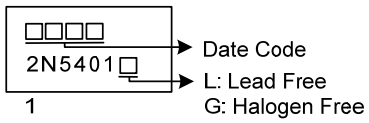
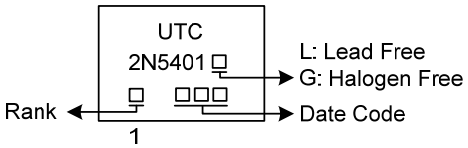
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2N5401L-x-AB3-R	2N5401G-x-AB3-R	SOT-89	B	C	E	Tape Reel
2N5401L-x-T92-B	2N5401G-x-T92-B	TO-92	E	B	C	Tape Box
2N5401L-x-T92-K	2N5401G-x-T92-K	TO-92	E	B	C	Bulk
2N5401L-x-T92-A-B	2N5401G-x-T92-A-B	TO-92	E	C	B	Tape Box
2N5401L-x-T92-A-K	2N5401G-x-T92-A-K	TO-92	E	C	B	Bulk

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

2N5401G-x-T92-A-B (1)Packing Type (2)Pin Assignment (3)Package Type (4)Rank (5)Green Package	(1) B: Tape Box, K: Bulk, R: Tape Reel (2) refer to Pin Assignment (3) AB3: SOT-89, T92: TO-92 (4) x: refer to Classification of h_{FE2} (5) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING

SOT-89	TO-92
	

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■ ABSOLUTE MAXIMUM RATING (T_A=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	SOT-89	P_C	500	mW
	TO-92		625	mW
Junction Temperature		T_J	+150	°C
Storage Temperature		T_{STG}	-55 ~ +150	°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.

■ THERMAL DATA

PARAMETER		SYMBOL	RATING	UNIT
Junction to Ambient	SOT-89	θ_{JA}	250	°C/W
	TO-92		200	°C/W
Junction to Case	SOT-89	θ_{JC}	167	°C/W
	TO-92		83.3	°C/W

■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	I_C = -100μA, 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 = -10μA, I_C = 0	-5			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			
	h_{FE2}	V_{CE} = -5V, I_C = -10mA	80		400	
	h_{FE3}	V_{CE} = -5V, I_C = -50mA	80			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C = -10mA, I_B = -1mA			-0.2	V
		I_C = -50mA, I_B = -5mA			-0.5	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	I_C = -10mA, I_B = -1mA			-1	V
		I_C = -50mA, I_B = -5mA			-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 = 1kΩ, f = 10Hz ~ 15.7kHz			8	dB

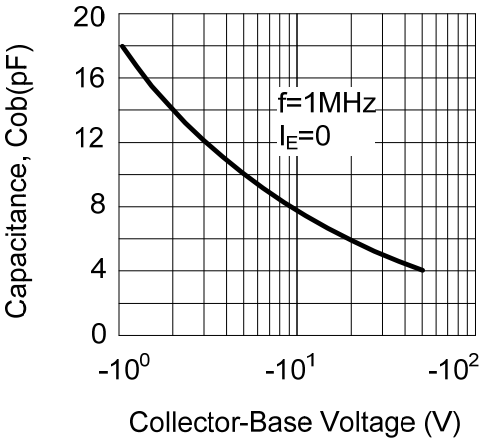
Note: Pulse test: P_W < 300μs, Duty Cycle < 2%.

■ CLASSIFICATION OF h_{FE2}

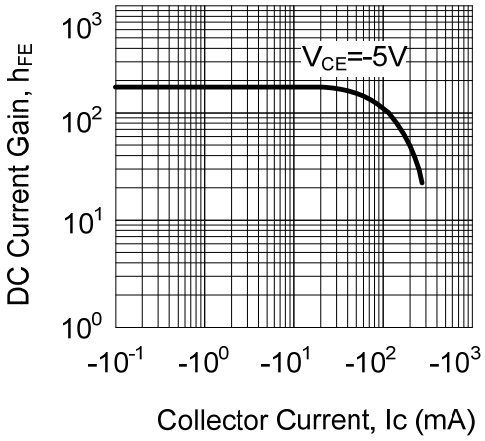
RANK	A	B	C
RANGE	80-170	150-240	200-400

■ TYPICAL CHARACTERISTICS

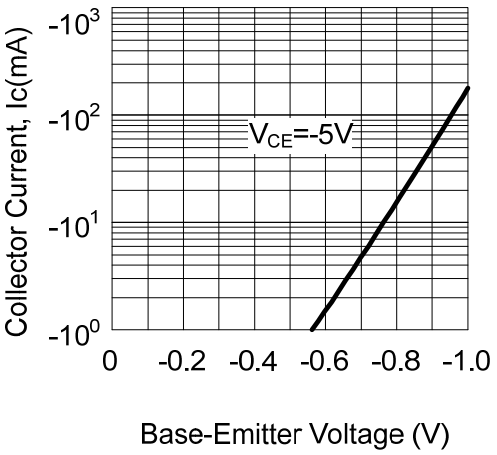
Capacitance vs. Collector-Base Voltage



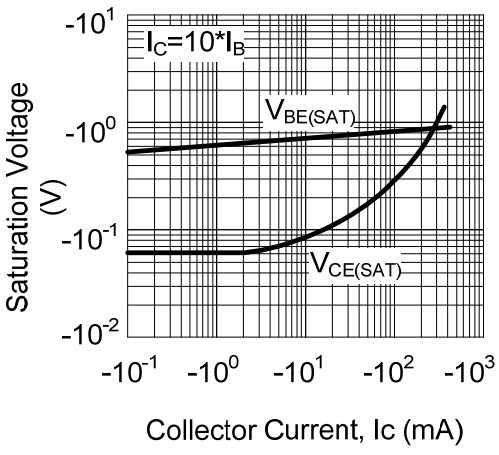
DC Current Gain vs. Collector Current



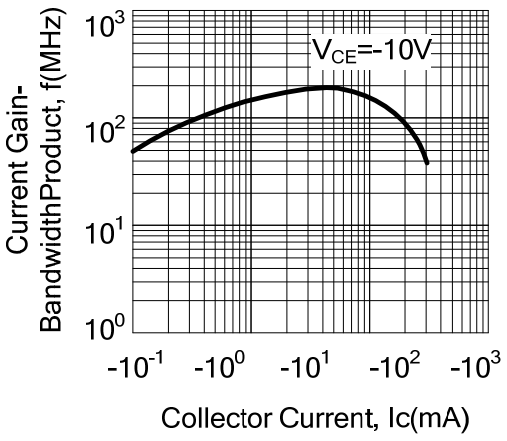
Collector Current vs. Base-Emitter Voltage



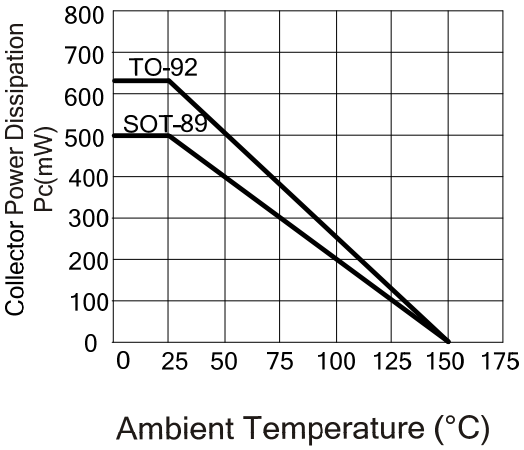
Saturation Voltage vs. Collector Current



Current Gain-Bandwidth Product vs. Collector Current



Pc - T_A



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