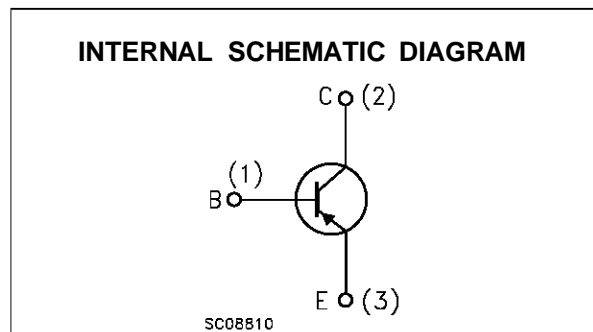
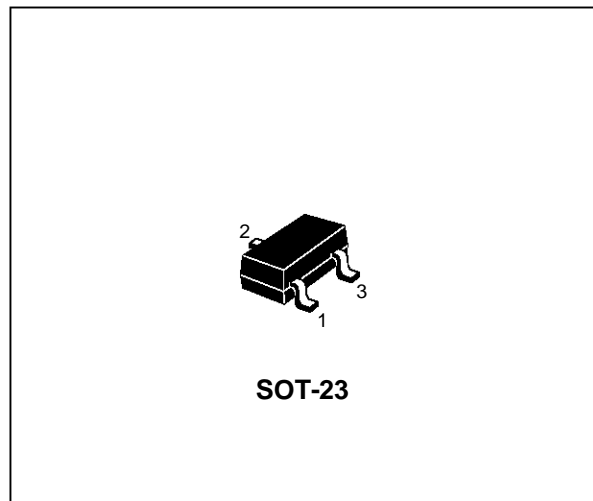


**SMALL SIGNAL PNP TRANSISTORS**

Type	Marking
SO5401	P33

- SILICON EPITAXIAL PLANAR PNP TRANSISTORS
- MINIATURE PLASTIC PACKAGE FOR APPLICATION IN SURFACE MOUNTING CIRCUITS
- GENERAL PURPOSE AND HIGH VOLTAGE AMPLIFIER



**ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage ( $I_E = 0$ )	-160	V
$V_{CEO}$	Collector-Emitter Voltage ( $I_B = 0$ )	-150	V
$V_{EBO}$	Emitter-Base Voltage ( $I_C = 0$ )	-5	V
$I_{CM}$	Collector Peak Current	-0.6	A
$P_{tot}$	Total Dissipation at $T_c = 25\text{ }^\circ\text{C}$	200	mW
$T_{stg}$	Storage Temperature	-65 to 150	$^\circ\text{C}$
$T_j$	Max. Operating Junction Temperature	150	$^\circ\text{C}$

**THERMAL DATA**

$R_{thj-amb}$ •	Thermal Resistance Junction-Ambient	Max	620	$^{\circ}C/W$
$R_{thj-SR}$ •	Thermal Resistance Junction-Substrate	Max	400	$^{\circ}C/W$

• Mounted on a ceramic substrate area = 7 x 5 x 0.5 mm

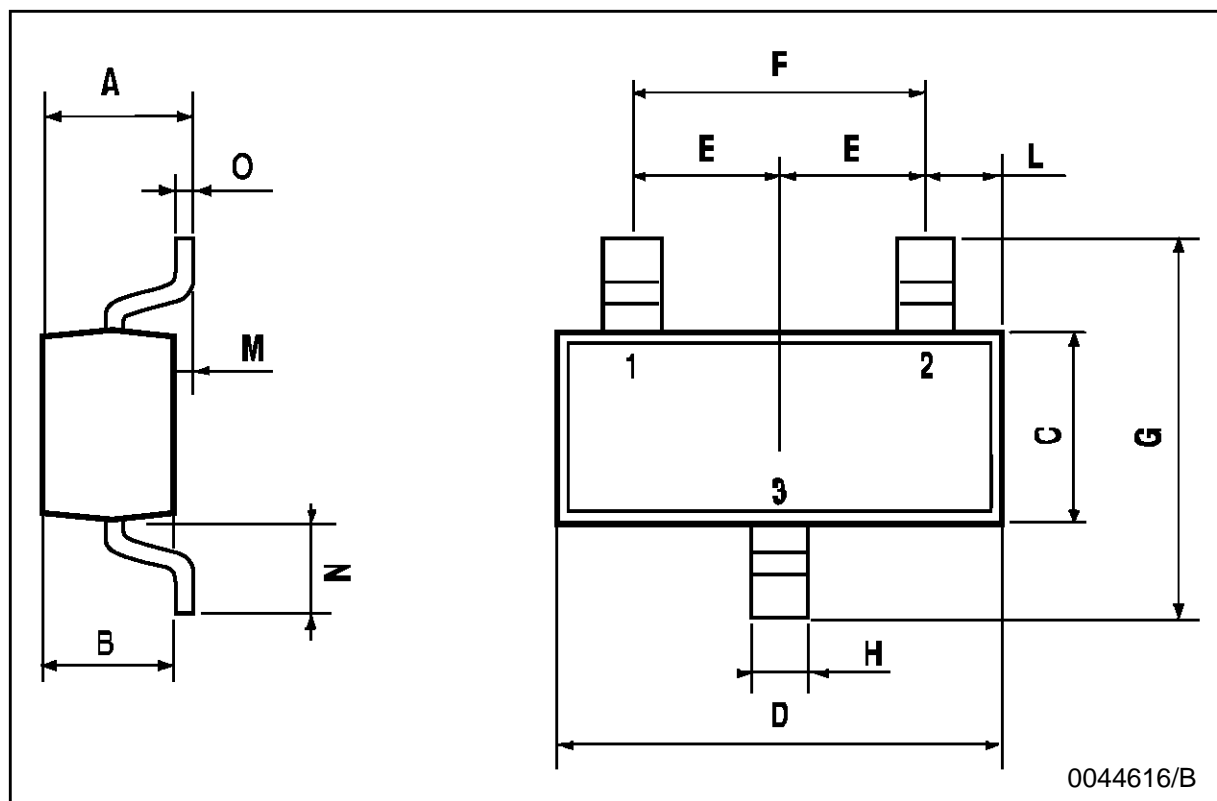
**ELECTRICAL CHARACTERISTICS** ( $T_{case} = 25^{\circ}C$  unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CBO}$	Collector Cut-off Current ( $I_E = 0$ )	$V_{CB} = -120 V$			-50	nA
$I_{EBO}$	Collector Cut-off Current ( $I_C = 0$ )	$V_{EB} = -3 V$			-50	nA
$V_{(BR)CBO}^*$	Collector-Emitter Breakdown Voltage ( $I_E = 0$ )	$I_C = -100 \mu A$	-160			V
$V_{(BR)CEO}^*$	Collector-Emitter Breakdown Voltage ( $I_B = 0$ )	$I_C = -1 mA$	-150			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ( $I_C = 0$ )	$I_C = -10 nA$	-5			V
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = -10 mA$ $I_B = -1 mA$ $I_C = -50 mA$ $I_B = -5 mA$			-0.2 -0.5	V V
$V_{BE(sat)}^*$	Collector-Base Saturation Voltage	$I_C = -10 mA$ $I_B = -1 mA$ $I_C = -50 mA$ $I_B = -5 mA$			-1 -1	V V
$h_{FE}^*$	DC Current Gain	$I_C = -1 mA$ $V_{CE} = -5 V$ $I_C = -10 mA$ $V_{CE} = -5 V$ $I_C = -50 mA$ $V_{CE} = -5 V$	50 60 50	240		
$f_T$	Transition Frequency	$I_C = -10 mA$ $V_{CE} = -10V$ $f = 1 MHz$	100		400	MHz
$C_{CB}$	Collector Base Capacitance	$I_E = 0$ $V_{CE} = -10 V$ $f = 1 MHz$			6	pF
NF	Noise Figure	$V_{CE} = -5 V$ $I_C = -0.25 mA$ $f = 1KHz$ $\Delta f = 200 Hz$ $R_G = 1 K\Omega$		5		dB
$h_{fe}^*$	Small Signal Current Gain	$V_{CE} = -5 V$ $I_C = -1 mA$ $f = 1KHz$	40		200	

\* Pulsed: Pulse duration = 300  $\mu s$ , duty cycle  $\leq 2\%$

## SOT-23 MECHANICAL DATA

DIM.	mm			mils		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	0.85		1.1	33.4		43.3
B	0.65		0.95	25.6		37.4
C	1.20		1.4	47.2		55.1
D	2.80		3	110.2		118
E	0.95		1.05	37.4		41.3
F	1.9		2.05	74.8		80.7
G	2.1		2.5	82.6		98.4
H	0.38		0.48	14.9		18.8
L	0.3		0.6	11.8		23.6
M	0		0.1	0		3.9
N	0.3		0.65	11.8		25.6
O	0.09		0.17	3.5		6.7



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