

## SILICON PNP SWITCHING TRANSISTOR

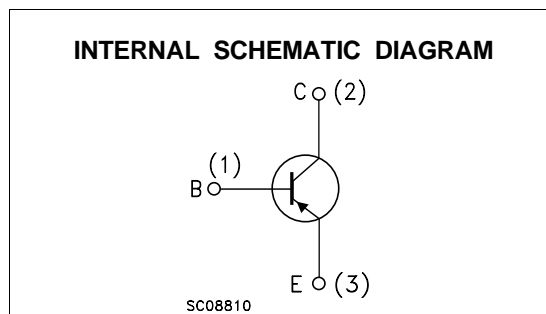
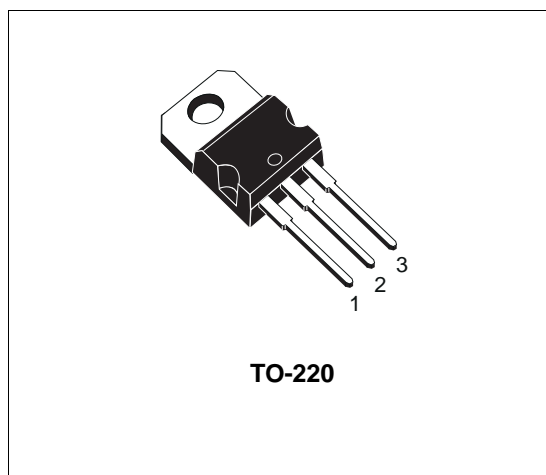
- STMicroelectronics PREFERRED SALESTYPE
- PNP TRANSISTOR

**APPLICATIONS:**

- LINEAR AND SWITCHING INDUSTRIAL EQUIPMENT

**DESCRIPTION**

The 2N6111 is an Epitaxial-Base PNP silicon transistor in Jedec TO-220 plastic package. It is intended for a wide variety of medium power switching and linear applications.


**ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value	Unit
$V_{CB0}$	Collector-Base Voltage ( $I_E = 0$ )	-40	V
$V_{CEX}$	Collector-Emitter Voltage ( $R_{BE} = 100 \Omega$ )	-40	V
$V_{CEO}$	Collector-Emitter Voltage ( $I_B = 0$ )	-30	V
$V_{EBO}$	Emitter-Base Voltage ( $I_C = 0$ )	-5	V
$I_C$	Collector Current	-7	A
$I_B$	Base Current	-3	A
$P_{tot}$	Total Dissipation at $T_c = 25^\circ\text{C}$	40	W
$T_{stg}$	Storage Temperature	-65 to 150	$^\circ\text{C}$
$T_j$	Max. Operating Junction Temperature	150	$^\circ\text{C}$

## THERMAL DATA

R <sub>thj-case</sub>	Thermal Resistance Junction-case	Max	3.12	°C/W
R <sub>thj-amb</sub>	Thermal Resistance Junction-ambient	Max	70	°C/W

ELECTRICAL CHARACTERISTICS (T<sub>case</sub> = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I <sub>CEX</sub>	Collector Cut-off Current (V <sub>BE</sub> = - 1.5V)	V <sub>CE</sub> = -40 V V <sub>CE</sub> = -30 V      T <sub>C</sub> = 150 °C			-0.1 -2	mA mA
I <sub>CEO</sub>	Collector Cut-off Current (I <sub>B</sub> = 0)	V <sub>CE</sub> = -20 V			-1	mA
I <sub>EBO</sub>	Emitter Cut-off Current (I <sub>C</sub> = 0)	V <sub>EB</sub> = -5 V			-1	mA
V <sub>CEO(sus)*</sub>	Collector-Emitter Sustaining Voltage (I <sub>B</sub> = 0)	I <sub>C</sub> = -0.1 A	-30			V
V <sub>CER(sus)*</sub>	Collector-Emitter Sustaining Voltage (I <sub>C</sub> = 0)	I <sub>C</sub> = -0.1 A      R <sub>BE</sub> = 100 Ω	-40			V
V <sub>CE(sat)*</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -2 A      I <sub>B</sub> = -0.2 A I <sub>C</sub> = -7 A      I <sub>B</sub> = -3.0 A			-1 -3.5	V V
V <sub>BE(on)*</sub>	Base-Emitter Voltage	I <sub>C</sub> = -2 A      V <sub>CE</sub> = -4 V I <sub>C</sub> = -7 A      V <sub>CE</sub> = -4 V			-5 -3	V V
h <sub>FE*</sub>	DC Current Gain	I <sub>C</sub> = -3 A      V <sub>CE</sub> = -4 V I <sub>C</sub> = -7 A      V <sub>CE</sub> = -4 V	30 2.3		150	
h <sub>fe</sub>	Small Signal Current Gain	I <sub>C</sub> = -0.5 A      V <sub>CE</sub> = -4 V f = 50 KHz	20			
f <sub>T</sub>	Transition-Frequency	I <sub>C</sub> = -0.5 A      V <sub>CE</sub> = -4 V	4			MHz
C <sub>cb0</sub>	Collector-base Capacitance	V <sub>CB</sub> = -10 V      f = 1 MHz			250	pF

\* Pulsed: Pulse duration = 300 μs, duty cycle 1.5 %.

## TO-220 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	4.40		4.60	0.173		0.181
C	1.23		1.32	0.048		0.052
D	2.40		2.72	0.094		0.107
E	0.49		0.70	0.019		0.027
F	0.61		0.88	0.024		0.034
F1	1.14		1.70	0.044		0.067
F2	1.14		1.70	0.044		0.067
G	4.95		5.15	0.194		0.202
G1	2.40		2.70	0.094		0.106
H2	10.00		10.40	0.394		0.409
L2		16.40			0.645	
L4	13.00		14.00	0.511		0.551
L5	2.65		2.95	0.104		0.116
L6	15.25		15.75	0.600		0.620
L7	6.20		6.60	0.244		0.260
L9	3.50		3.93	0.137		0.154
M		2.60			0.102	
DIA.	3.75		3.85	0.147		0.151

