

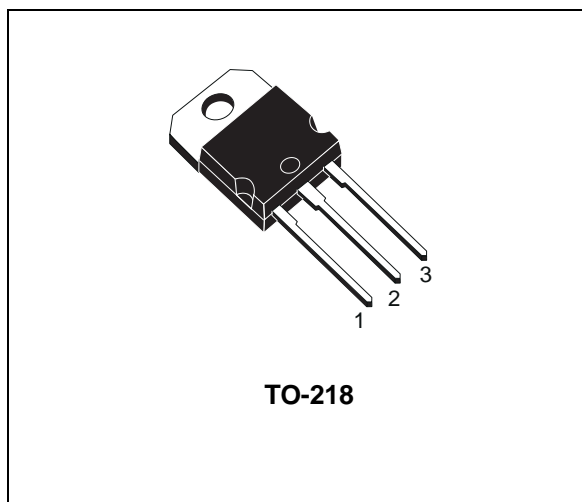
## COMPLEMENTARY SILICON POWER TRANSISTORS

- STMicroelectronics PREFERRED SALESTYPES
- COMPLEMENTARY PNP - NPN DEVICES

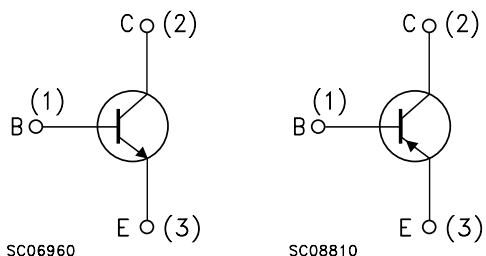
### DESCRIPTION

The TIP3055 is a silicon Epitaxial-Base Planar NPN transistor mountend in TO-218 plastic package. It is intended for power switching circuits, series and shunt regulators, output stages and hi-fi amplifiers.

The complementary PNP type is the TIP2955.



### INTERNAL SCHEMATIC DIAGRAM



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		PNP	TIP2955	
		NPN	TIP3055	
$V_{CBO}$	Collector-Base Voltage ( $I_E = 0$ )		100	V
$V_{CEO}$	Collector-Emitter Voltage ( $I_B = 0$ )		60	V
$I_C$	Collector Current		15	A
$I_B$	Base Current		7	A
$P_{tot}$	Total Dissipation at $T_c \leq 25^\circ\text{C}$		90	W
$T_{stg}$	Storage Temperature		-65 to 150	$^\circ\text{C}$
$T_j$	Max. Operating Junction Temperature		150	$^\circ\text{C}$

For PNP types voltage and current are negative.

## THERMAL DATA

R <sub>thj-case</sub>	Thermal Resistance Junction-case	Max	1.4	°C/W
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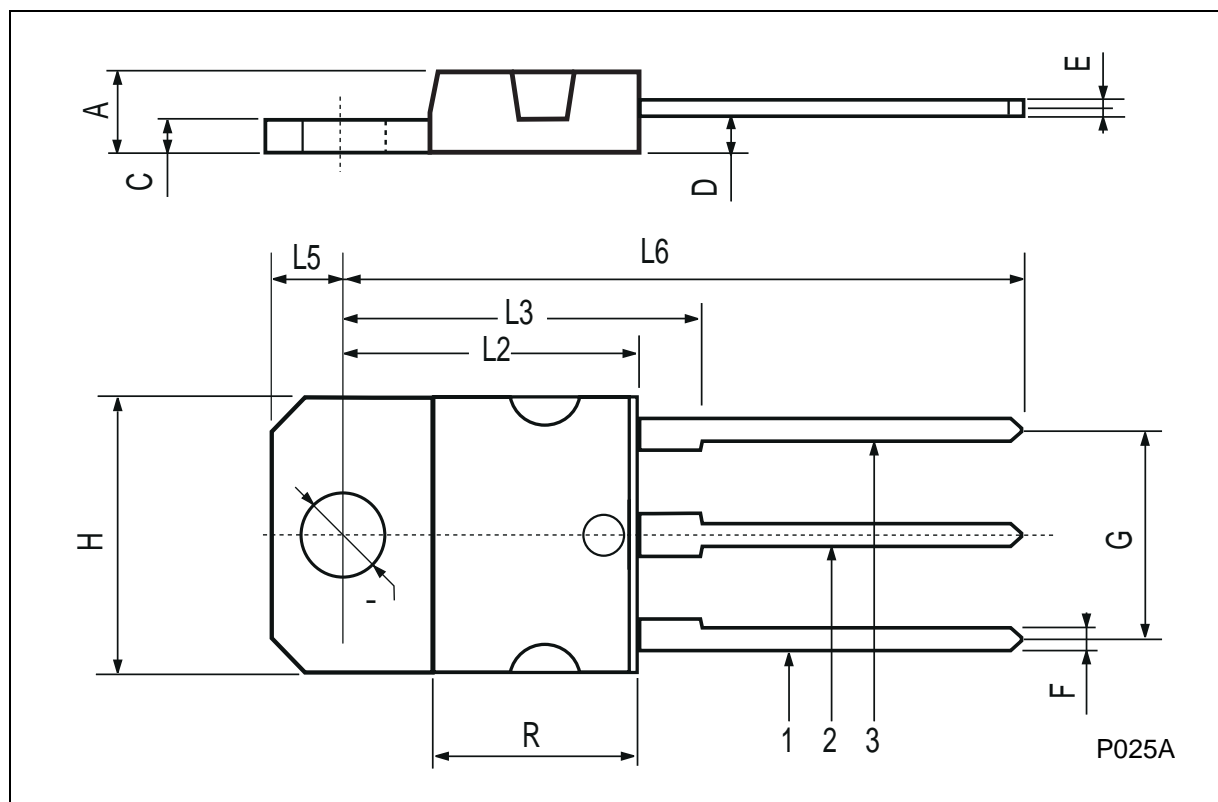
ELECTRICAL CHARACTERISTICS (T<sub>case</sub> = 25 °C unless otherwise specified)

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> = 100 V V <sub>CE</sub> = 100 V      T <sub>J</sub> = 150 °C			1 5	mA mA
I <sub>CEO</sub>	Collector Cut-off Current (I <sub>B</sub> = 0)	V <sub>CE</sub> = 30 V			0.7	mA
I <sub>EBO</sub>	Emitter Cut-off Current (I <sub>C</sub> = 0)	V <sub>EB</sub> = 7 V			5	mA
V <sub>CEO(sus)*</sub>	Collector-Emitter Sustaining Voltage (I <sub>B</sub> = 0)	I <sub>C</sub> = 30 mA	60			V
V <sub>CE(sat)*</sub>	Collector-emitter Saturation Voltage	I <sub>C</sub> = 4 A      I <sub>B</sub> = 0.4 A I <sub>C</sub> = 10 A      I <sub>B</sub> = 3.3 A			1 3	V V
V <sub>BE*</sub>	Base-emitter Voltage	I <sub>C</sub> = 4 A      V <sub>CE</sub> = 4 V			1.8	V
h <sub>FE*</sub>	DC Current Gain	I <sub>C</sub> = 4 A      V <sub>CE</sub> = 4 V I <sub>C</sub> = 10 A      V <sub>CE</sub> = 4 V	20 5		70	
h <sub>fe</sub>	Small Signal Current Gain	I <sub>C</sub> = 1 A      V <sub>CE</sub> = 10 V      f = 1 KHz	15			
f <sub>T</sub>	Transition-Frequency	I <sub>C</sub> = 0.5 A      V <sub>CE</sub> = 10 V      f = 1 MHz	3			MHz
t <sub>on</sub> t <sub>off</sub>	RESISTIVE LOAD Turn-on Time Turn-off Time	I <sub>C</sub> = 6 A      I <sub>B1</sub> = - I <sub>B2</sub> = 0.6 A R <sub>L</sub> = 5 Ω      V <sub>BE(off)</sub> = - 4 V		0.5 0.9		μs μs

\* Pulsed: Pulse duration = 300 μs, duty cycle 1.5 %  
For PNP type, voltage and current value are negative.

## TO-218 (SOT-93) MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	4.7		4.9	0.185		0.193
C	1.17		1.37	0.046		0.054
D		2.5			0.098	
E	0.5		0.78	0.019		0.030
F	1.1		1.3	0.043		0.051
G	10.8		11.1	0.425		0.437
H	14.7		15.2	0.578		0.598
L2	–		16.2	–		0.637
L3		18			0.708	
L5	3.95		4.15	0.155		0.163
L6		31			1.220	
R	–		12.2	–		0.480
Ø	4		4.1	0.157		0.161



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