



# TIP2955 TIP3055

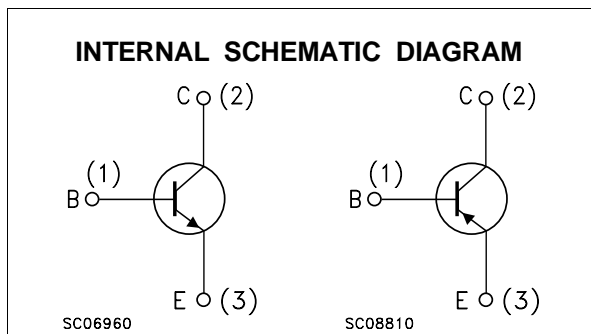
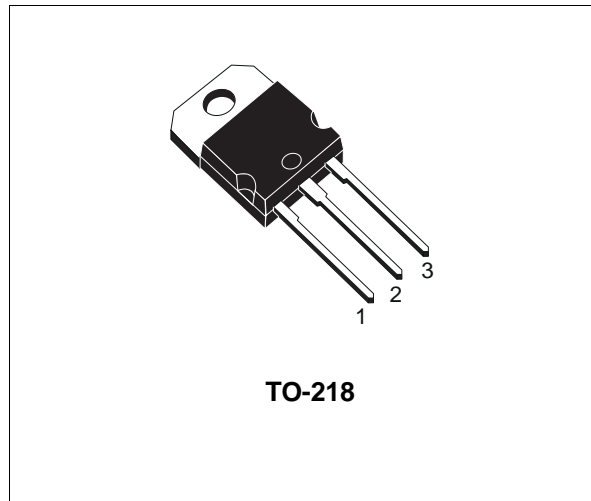
## COMPLEMENTARY SILICON POWER TRANSISTORS

- STM PREFERRED SALESTYPES
- COMPLEMENTARY PNP - NPN DEVICES

### DESCRIPTION

The TIP3055 is a silicon epitaxial-base planar NPN transistor mounted in TO-218 plastic package and intended for power switching circuits, series and shunt regulators, output stages and hi-fi amplifiers.

The complementary PNP type is the TIP2955.



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		PNP	TIP2955	
		NPN	TIP3055	
$V_{CB0}$	Collector-Base Voltage ( $I_E = 0$ )		100	V
$V_{CE0}$	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.

## TIP2955/TIP3055

### THERMAL DATA

$R_{thj-case}$	Thermal Resistance Junction-case	Max	1.4	$^{\circ}C/W$
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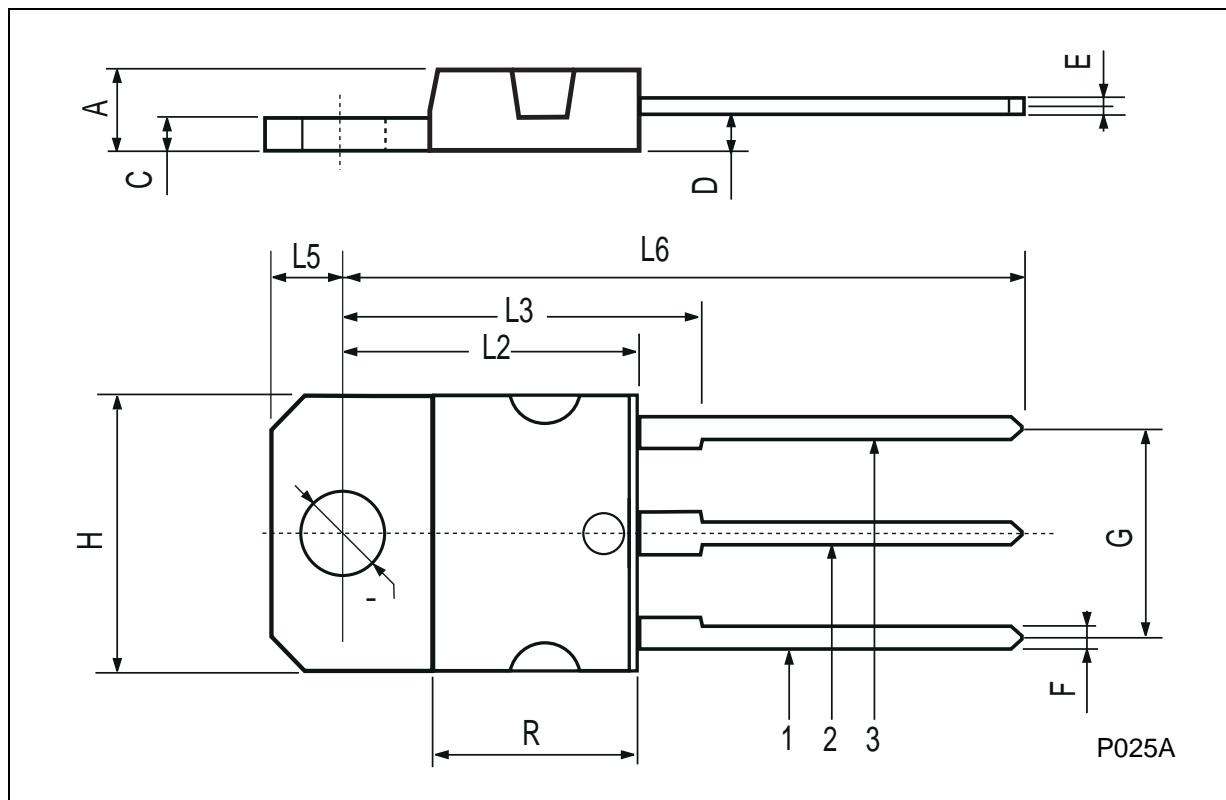
### ELECTRICAL CHARACTERISTICS ( $T_{case} = 25^{\circ}C$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CEX}$	Collector Cut-off Current ( $V_{BE} = 1.5V$ )	$V_{CE} = 100 V$ $V_{BE} = -1.5 V$			5	mA
$I_{CEO}$	Collector Cut-off Current ( $I_B = 0$ )	$V_{CE} = 30 V$			0.7	mA
$I_{EBO}$	Emitter Cut-off Current ( $I_C = 0$ )	$V_{EB} = 7 V$			5	mA
$V_{CEO(sus)}^*$	Collector-Emitter Sustaining Voltage ( $I_B = 0$ )	$I_C = 30 mA$	60			V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = 4 A$ $I_B = 0.4 A$ $I_C = 10 A$ $I_B = 3.3 A$			1 3	V V
$V_{BE}^*$	Base-emitter Voltage	$I_C = 4 A$ $V_{CE} = 4 V$			1.8	V
$h_{FE}^*$	DC Current Gain	$I_C = 4 A$ $V_{CE} = 4 V$ $I_C = 10 A$ $V_{CE} = 4 V$	20 5			
$h_{fe}$	Small Signal Current Gain	$I_C = 1 A$ $V_{CE} = 10 V$ $f = 1 KHz$	15			
$f_T$	Transition-Frequency	$I_C = 0.5 A$ $V_{CE} = 10 V$ $f = 1 MHz$	3			MHz
$t_{on}$ $t_{off}$	RESISTIVE LOAD Turn-on Time Turn-off Time	$I_C = 6 A$ $I_{B1} = 0.6 A$ $I_{B2} = -0.6 A$ $V_{BEoff} = -4 V$ $R_L = 5 \Omega$		0.5 0.9		$\mu s$ $\mu s$

\* Pulsed: Pulse duration = 300  $\mu s$ , 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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