

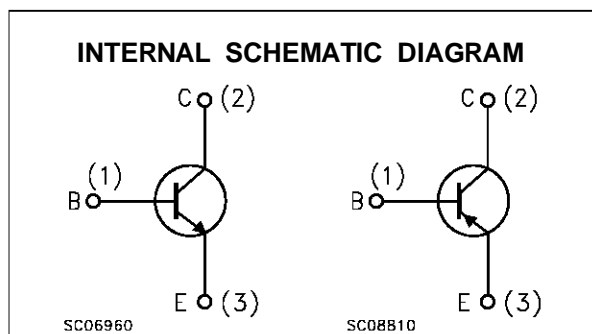
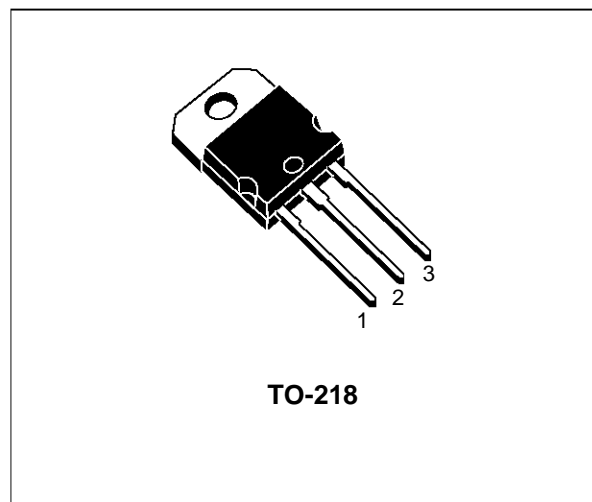
COMPLEMENTARY SILICON POWER TRANSISTORS

■ SGS-THOMSON PREFERRED SALESTYPES

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
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 $T_c \leq 25^\circ C$	90	W
T_{stg}	Storage Temperature	-65 to 150	$^\circ C$
T_j	Max. Operating Junction Temperature	150	$^\circ C$

TIP2955/TIP3055

THERMAL DATA

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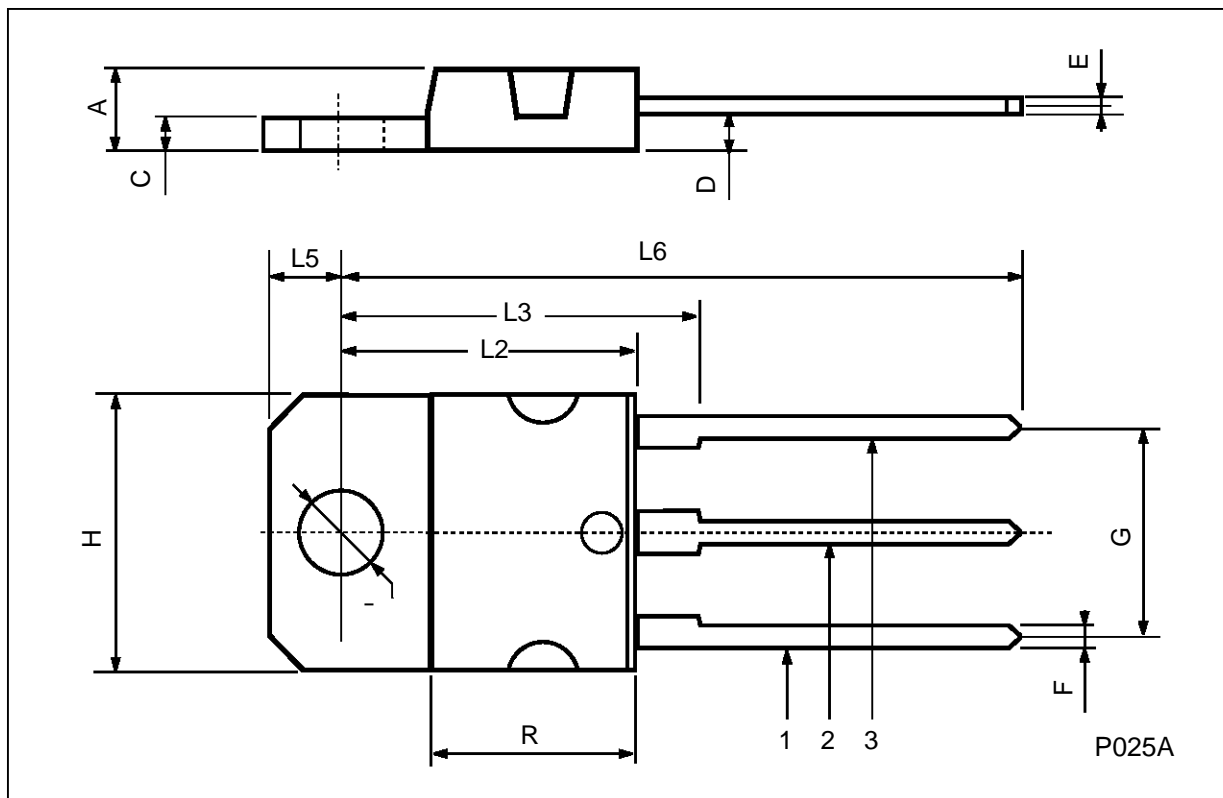
ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

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-of 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	μs μs

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

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
∅	4		4.1	0.157		0.161



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