

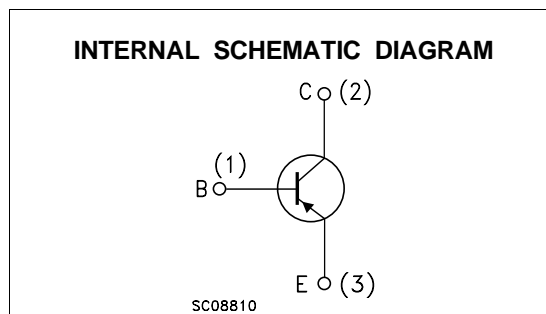
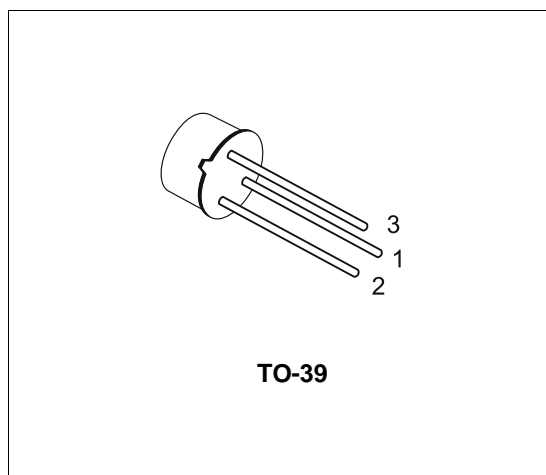
## SILICON PNP TRANSISTORS

- STMicroelectronics PREFERRED SALESTYPES
- PNP TRANSISTORS

### DESCRIPTION

The 2N5415, 2N5416 are high voltage silicon epitaxial planar PNP transistors in Jedec TO-39 metal case designed for use in consumer and industrial line-operated applications.

These devices are particularly suited as drivers in high-voltage low current inverters, switching and series regulators.



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		2N5415	2N5416	
V <sub>CB0</sub>	Collector-Base Voltage (I <sub>E</sub> = 0)	-200	-350	V
V <sub>CEO</sub>	Collector-Emitter Voltage (I <sub>B</sub> = 0)	-200	-300	V
V <sub>EBO</sub>	Emitter-Base Voltage (I <sub>C</sub> = 0)	-4	-6	V
I <sub>C</sub>	Collector Current	-1		A
I <sub>B</sub>	Base Current	-0.5		A
P <sub>tot</sub>	Total Dissipation at T <sub>c</sub> ≤ 25 °C	10		W
P <sub>tot</sub>	Total Dissipation at T <sub>amb</sub> ≤ 50 °C	1		W
T <sub>stg</sub>	Storage Temperature	-65 to 200		°C

## 2N5415 / 2N5416

### THERMAL DATA

$R_{thj-case}$	Thermal Resistance Junction-case	Max	17.5	$^{\circ}C/W$
$R_{thj-amb}$	Thermal Resistance Junction-ambient	Max	175	$^{\circ}C/W$

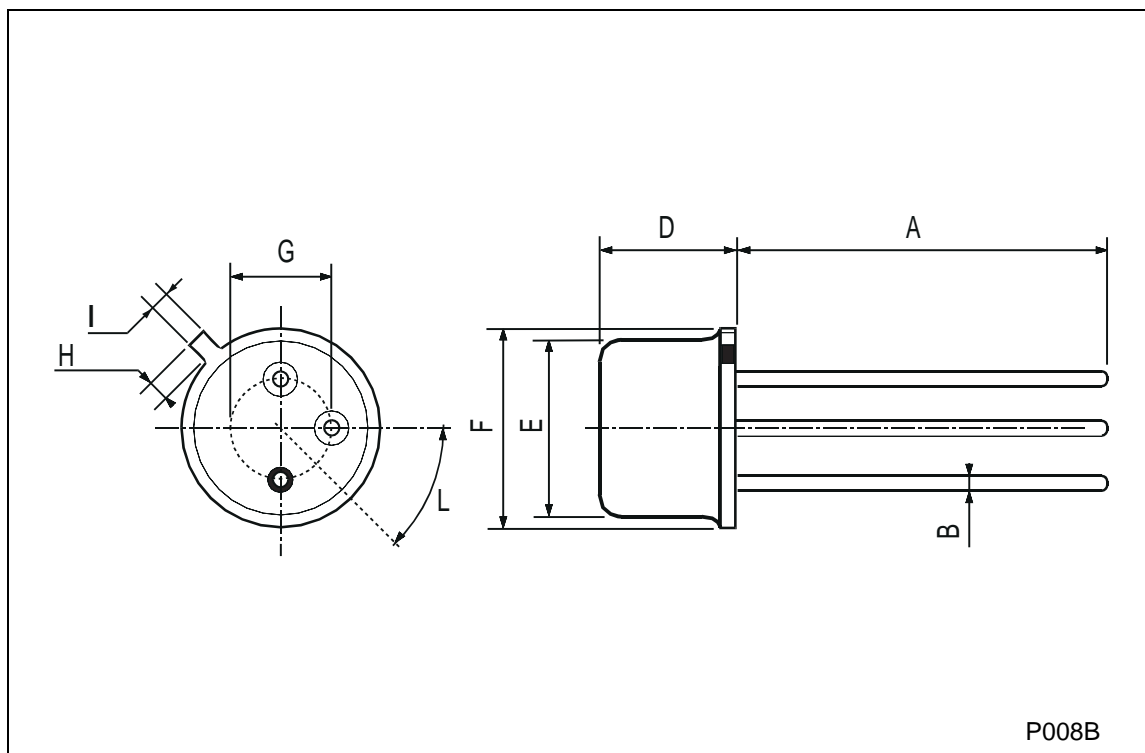
### ELECTRICAL CHARACTERISTICS ( $T_{case} = 25^{\circ}C$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CBO}$	Collector Cut-off Current ( $I_E = 0$ )	for <b>2N5415</b> $V_{CB} = -175 V$ for <b>2N5416</b> $V_{CB} = -280 V$			-50 -50	$\mu A$ $\mu A$
$I_{CEO}$	Collector Cut-off Current ( $I_B = 0$ )	$V_{CE} = -150 V$			-50	$\mu A$
$I_{EBO}$	Emitter Cut-off Current ( $I_C = 0$ )	for <b>2N5415</b> $V_{EB} = -4 V$ for <b>2N5416</b> $V_{EB} = -6 V$			-20 -20	$\mu A$ $\mu A$
$V_{CER}^*$	Collector-Emitter Sustaining Voltage	$I_C = -50 mA$ $R_{BE} = 50\Omega$ for <b>2N5416</b>	-350			V
$V_{CEO(sus)}^*$	Collector-Emitter Sustaining Voltage	$I_C = -10 mA$ for <b>2N5415</b> for <b>2N5416</b>	-200 -300			V V
$V_{CE(sat)}^*$	Collector-Emitter Saturation Voltage	$I_C = -50 mA$ $I_B = -5 mA$			-2.5	V
$V_{BE}^*$	Base-Emitter Voltage	$I_C = -50 mA$ $V_{CE} = -10 V$			-1.5	V
$h_{FE}^*$	DC Current Gain	$I_C = -50 mA$ $V_{CE} = -10 V$ for <b>2N5415</b> for <b>2N5416</b>	30 30		150 120	
$h_{fe}$	Small Signal Current Gain	$I_C = -5 mA$ $V_{CE} = -10 V$ $f = 1KHz$	25			
$f_T$	Transition frequency	$I_C = -10 mA$ $V_{CE} = -10 V$ $f = 5MHz$	15			MHz
$C_{CBO}$	Collector Base Capacitance	$I_E = 0$ $V_{CB} = -10 V$ $f = 1MHz$			25	pF

\* Pulsed: Pulse duration = 300  $\mu s$ , duty cycle 1.5 %

## TO-39 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	12.7			0.500		
B			0.49			0.019
D			6.6			0.260
E			8.5			0.334
F			9.4			0.370
G	5.08			0.200		
H			1.2			0.047
I			0.9			0.035
L	45° (typ.)					



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