

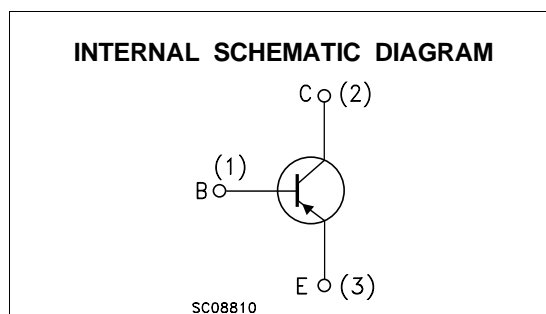
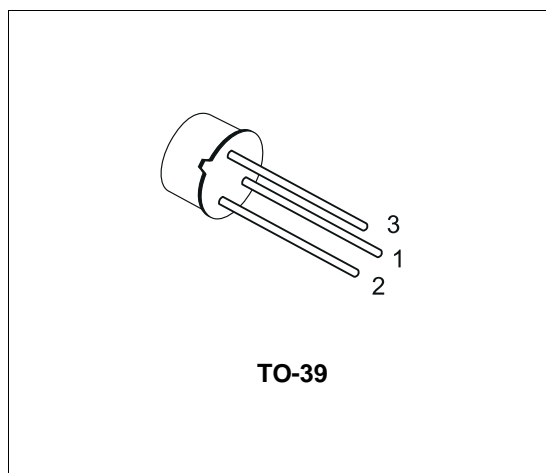
SILICON PNP TRANSISTORS

- 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_{CBO}	Collector-Base Voltage ($I_E = 0$)	-200	-350	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	-200	-300	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	-4	-6	V
I_C	Collector Current	-1		A
I_B	Base Current	-0.5		A
P_{tot}	Total Dissipation at $T_c \leq 25\text{ }^{\circ}\text{C}$	10		W
P_{tot}	Total Dissipation at $T_{amb} \leq 50\text{ }^{\circ}\text{C}$	1		W
T_{stg}	Storage Temperature	-65 to 200		$^{\circ}\text{C}$

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	$^{\circ}C/W$

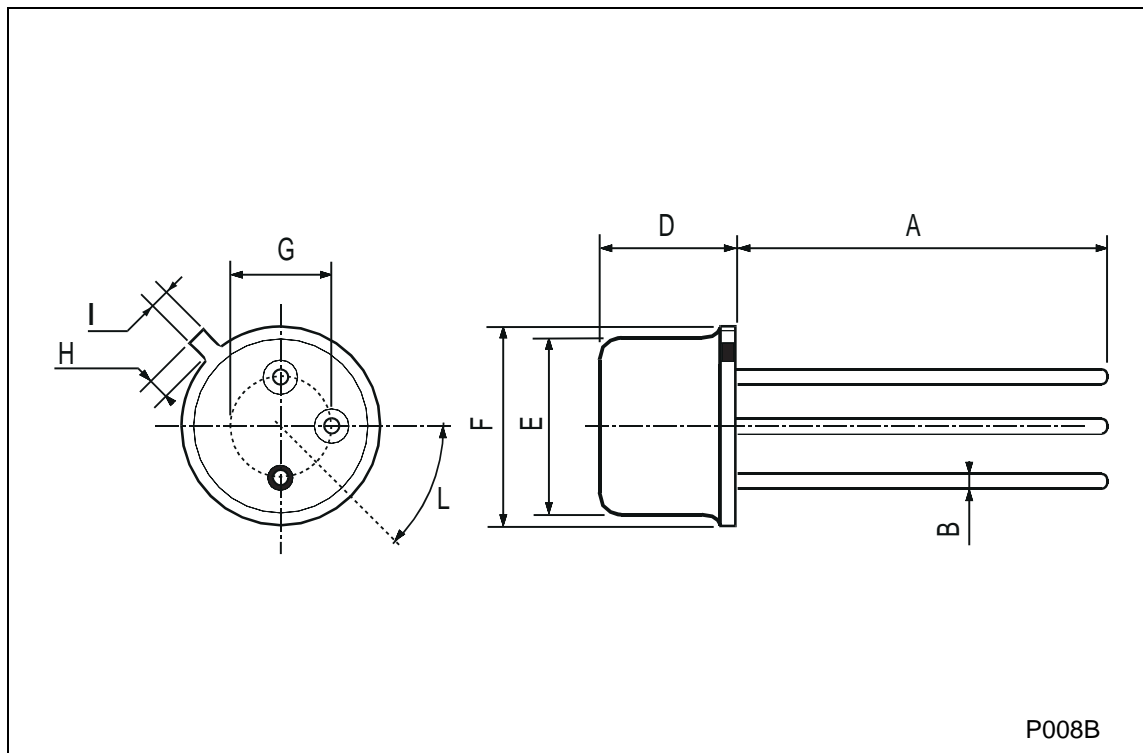
ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cut-off Current ($I_E = 0$)	for 2N5415 $V_{CB} = -175 V$ for 2N5416 $V_{CB} = -280 V$			-50 -50	μA μA
I_{CEO}	Collector Cut-off Current ($I_B = 0$)	$V_{CE} = -150 V$			-50	μA
I_{EBO}	Emitter Cut-off Current ($I_C = 0$)	for 2N5415 $V_{EB} = -4 V$ for 2N5416 $V_{EB} = -6 V$			-20 -20	μA μA
V_{CER}^*	Collector-Emitter Sustaining Voltage	$I_C = -50 mA$ $R_{BE} = 50\Omega$ for 2N5416	-350			V
$V_{CEO(sus)}^*$	Collector-Emitter Sustaining Voltage	$I_C = -10 mA$ for 2N5415 for 2N5416	-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 2N5415 for 2N5416	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 μs , 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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