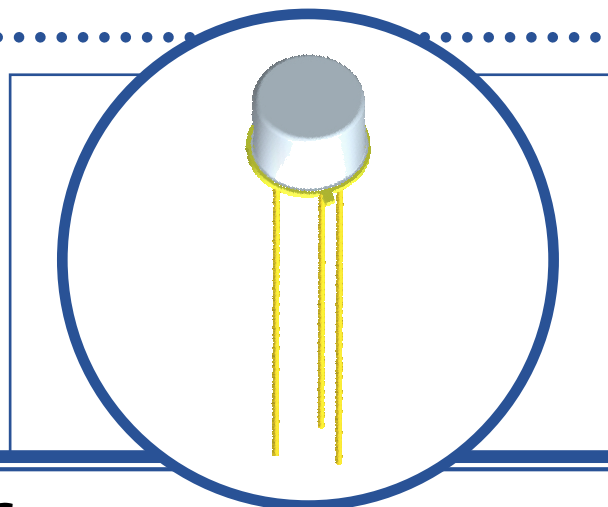


SILICON NPN TRANSISTOR

2N2891LL

- $V_{(BR)CEO} = 80V$ (Min).
- Hermetic TO5 (TO-205AA) Metal Package.
- Ideally Suited For Low Frequency Large Signal Applications (High Voltage).
- Screening Options Available



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ C$ unless otherwise stated)

V_{CBO}	Collector – Base Voltage	100V
V_{CEO}	Collector – Emitter Voltage	80V
V_{EBO}	Emitter – Base Voltage	5V
I_C	Continuous Collector Current	3A
I_{CM}	Peak Collector Current	5A
I_B	Base Current	0.5A
P_D	Total Power Dissipation at $T_A = 25^\circ C$	0.8W
	Derate Above $25^\circ C$	4.57mW/ $^\circ C$
P_D	Total Power Dissipation at $T_C = 25^\circ C$	5W
	Derate Above $25^\circ C$	28.6mW/ $^\circ C$
T_J	Junction Temperature Range	-65 to +200 $^\circ C$
T_{stg}	Storage Temperature Range	-65 to +200 $^\circ C$

THERMAL PROPERTIES

Symbols	Parameters	Max.	Units
$R_{\theta JA}$	Thermal Resistance, Junction To Ambient	218.75	$^\circ C/W$
$R_{\theta JC}$	Thermal Resistance, Junction To Case	35	$^\circ C/W$

Semelab Limited reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

Semelab Limited

Coventry Road, Lutterworth, Leicestershire, LE17 4JB

Telephone +44 (0) 1455 556565

Fax +44 (0) 1455 552612

Email: sales@semelab-tt.com

Website: <http://www.semelab-tt.com>



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SILICON NPN TRANSISTOR 2N2891LL

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise stated)

Symbols	Parameters	Test Conditions	Min.	Typ	Max.	Units
$V_{(BR)CEO}^{(1)}$	Collector-Emitter Breakdown Voltage	$I_C = 10\text{mA}$ $I_B = 0$	80			V
$V_{(BR)CBO}^{(1)}$	Collector-Base Breakdown Voltage	$I_C = 0.1\text{mA}$ $I_E = 0$	100			
I_{CEO}	Collector Cut-Off Current	$V_{CE} = 60\text{V}$ $I_B = 0$			50	μA
I_{CEX}	Collector Cut-Off Current	$V_{CE} = 60\text{V}$ $V_{BE} = -2\text{V}$			0.1	
		$T_A = 150^\circ\text{C}$			100	
		$V_{CE} = 90\text{V}$ $V_{BE} = -2\text{V}$			100	
I_{EBO}	Emitter Cut-Off Current	$V_{EB} = 5\text{V}$ $I_C = 0$			10	
$h_{FE}^{(1)}$	Forward-current transfer ratio	$I_C = 100\text{mA}$ $V_{CE} = 2\text{V}$	35			
		$I_C = 1.0\text{A}$ $V_{CE} = 2\text{V}$	50		150	
		$I_C = 2\text{A}$ $V_{CE} = 5\text{V}$	40			
$V_{CE(sat)}^{(1)}$	Collector-Emitter Saturation Voltage	$I_C = 1.0\text{A}$ $I_B = 100\text{mA}$			0.5	V
		$I_C = 2\text{A}$ $I_B = 200\text{mA}$			0.75	
$V_{BE(sat)}^{(1)}$	Base-Emitter Saturation Voltage	$I_C = 1.0\text{A}$ $I_B = 100\text{mA}$			1.2	
		$I_C = 2\text{A}$ $I_B = 200\text{mA}$			1.3	

DYNAMIC CHARACTERISTICS

h_{fe}	Small-Signal Current Gain	$I_C = 50\text{mA}$ $V_{CE} = 10\text{V}$ $f = 1.0\text{KHz}$	50		350	
f_T	Transition Frequency	$I_C = 200\text{mA}$ $V_{CE} = 10\text{V}$ $f = 20\text{MHz}$	30			MHz
C_{obo}	Output Capacitance	$V_{CB} = 10\text{V}$ $I_E = 0$ $f = 1.0\text{MHz}$		70	100	pF
t_{on}	Turn-On Time	$I_C = 1.0\text{A}$ $V_{CC} = 20\text{V}$ $I_{B1} = 50\text{mA}$			0.3	μs
t_{off}	Turn-Off Time	$I_C = 1.0\text{A}$ $V_{CC} = 20\text{V}$ $I_{B1} = 50\text{mA}$ $I_{B2} = -50\text{mA}$			1.5	

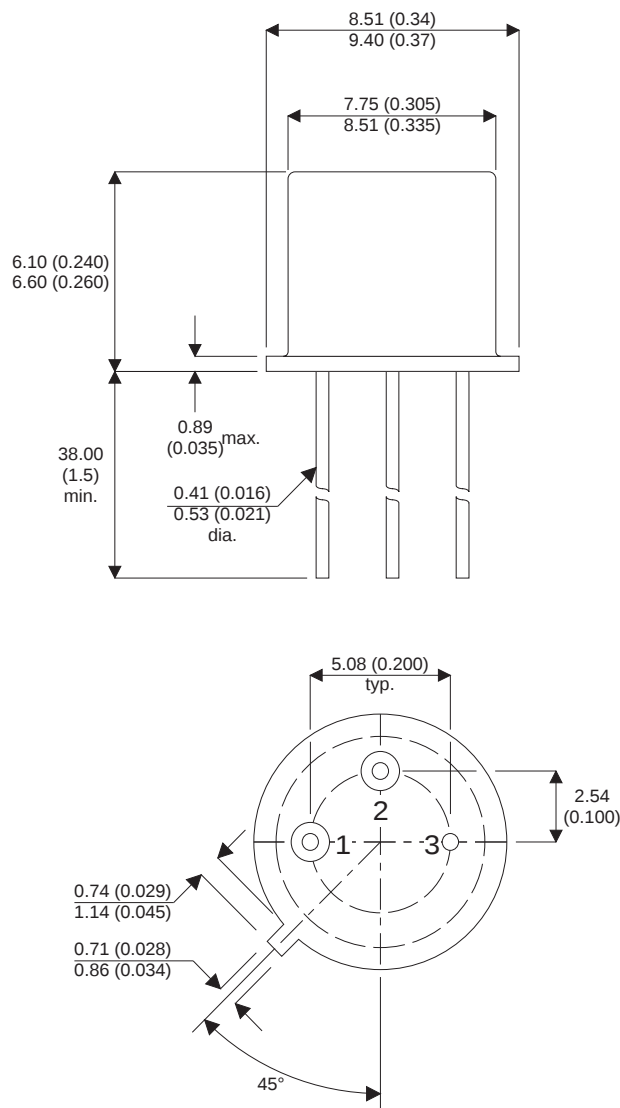
Notes

(1) Pulse Width $\leq 380\mu\text{s}$, $\delta \leq 2\%$

SILICON NPN TRANSISTOR 2N2891LL

MECHANICAL DATA

Dimensions in mm (inches)



TO-5 (TO-205AA) METAL PACKAGE Underside View

Pin 1 - Emitter

Pin 2 - Base

Pin 3 - Collector