

#### MECHANICAL DATA Dimensions in mm (inches)





# NPN SILICON TRANSISTOR

- Bipolar Power Transistor
- TO-61 Hermetic Package
- High Current Switching
- LF Large Signal Amplification

#### TO-61 Metal Package.

Pin 1 – Emitter

Pin 2 – Base Case

Case – Collector

### ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C unless otherwise stated)

′сво	Collector – Base Voltage	60V
CEO	Collector – Emitter Voltage	60V
<sup>/</sup> ЕВО	Emitter – Base Voltage	8V
С	Continuous Collector Current	5A
P <sub>D</sub>	Total Device Dissipation	85W
	Derate above 100°C	570 mW/°C
STG , TJ	, T <sub>J</sub> Storage and Operating Junction Temperature Range –65	
EBO	Continuous Collector Current Total Device Dissipation Derate above 100°C Storage and Operating Junction Temperature Range	5A 85W 570 mW/°C –65 to +175°C

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## 2N1616



2N1616

Parameter		Test Conditions		Min.	Тур.	Max.	Units
I <sub>CBO</sub>	Collector-Base cut-off current T <sub>case</sub> = 150°C	V <sub>CB</sub> = 60V	I <sub>E</sub> = 0			10	
I <sub>CEX</sub>	Collector-Emitter cut-off current	V <sub>CB</sub> = 60V	V <sub>BE</sub> = -1V			1	mA
I <sub>EBO</sub>	Emitter-Base cut-off current	V <sub>EB</sub> = 8V	$I_{\rm C} = 0$			1	
V <sub>(BR)CEO*</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 100mA	I <sub>B</sub> = 0	60			
V <sub>(BR)EBO*</sub>	Emitter-Base Breakdown Voltage	I <sub>B</sub> = 1mA	$I_{\rm C} = 0$	8			V
V <sub>(BR)CBO*</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = 1mA	$I_{E} = 0$	60			
h <sub>21E</sub>	Static Forward Current Transfer Ratio	V <sub>CE</sub> = 12V	$I_{\rm C} = 2A$	15		75	-
V <sub>CEsat</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 2A	I <sub>B</sub> = 250mA			2	V
V <sub>BE</sub>	Base-Emitter Voltage	V <sub>CE</sub> = 12V	$I_{\rm C} = 2A$			3	V
f <sub>T</sub>	Transition Frequency (f=1MHz)	V <sub>CE</sub> = 30V	I <sub>C</sub> = 300mA	3			MHz
R <sub>th(J-C)</sub>	Thermal Resistance (junction to case)					1.75	°C/W

\* Pulse test  $t_p$  = 300 $\mu s$  ,  $\delta \leq 2\%$ 

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