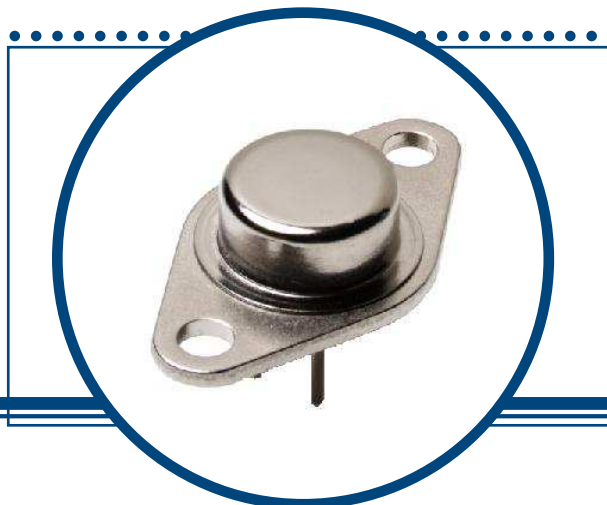


SILICON NPN POWER TRANSISTOR

2N6235R

- Hermetic TO66 Metal Package
- Designed For Driver Circuits, Switching and Amplifier Applications
- Screening Options Available



ABSOLUTE MAXIMUM RATINGS ($T_C = 25^\circ\text{C}$ unless otherwise stated)

V_{CBO}	Collector - Base Voltage	350V
V_{CEO}	Collector - Emitter Voltage	275V
V_{EBO}	Emitter - Base Voltage	6V
I_C	Continuous Collector Current	5A
I_B	Base Current	2A
P_D	Total Power Dissipation at $T_C = 25^\circ\text{C}$ Derate Above 25°C	50W 0.286W/ $^\circ\text{C}$
T_J	Junction Temperature Range	-65 to $+200^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65 to $+200^\circ\text{C}$

THERMAL PROPERTIES

Symbols	Parameters	Min.	Typ.	Max.	Units
$R_{\theta JC}$	Thermal Resistance, Junction To Case			3.5	$^\circ\text{C}/\text{W}$

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.

SILICON NPN POWER TRANSISTOR 2N6235R

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

Symbols	Parameters	Test Conditions	Min.	Typ.	Max.	Units
I_{CEO}	Collector-Emitter Cut-Off Current	$V_{CE} = 275\text{V}$ $I_B = 0$			1.0	mA
I_{CEX}	Collector-Emitter Cut-Off Current	$V_{CE} = 275\text{V}$ $V_{BE} = -1.5\text{V}$ $T_C = 150^\circ\text{C}$			1.0	
I_{EBO}	Emitter-Base Cut-Off Current	$V_{EB} = 6\text{V}$ $I_C = 0$			0.1	
I_{CBO}	Collector-Base Cut-Off Current	$V_{CB} = 350\text{V}$ $I_E = 0$			0.1	
$V_{BE(on)}^1$	Base-Emitter Voltage	$I_C = 1.0\text{A}$ $V_{CE} = 5\text{V}$			1.0	V
$V_{CE(sat)}^1$	Collector-Emitter Saturation Voltage	$I_C = 1.0\text{A}$ $I_B = 100\text{mA}$			0.5	
		$I_C = 5\text{A}$ $I_B = 1.0\text{A}$			2.5	
$V_{BE(sat)}^1$	Base-Emitter Saturated Voltage	$I_C = 1.0\text{A}$ $I_B = 100\text{mA}$			1.0	
		$I_C = 5\text{A}$ $I_B = 1.0\text{A}$			2	
h_{FE}^1	Forward-current transfer ratio	$I_C = 0.1\text{A}$ $V_{CE} = 5\text{V}$	25			
		$I_C = 1.0\text{A}$ $V_{CE} = 5\text{V}$	25		125	
		$I_C = 3\text{A}$ $V_{CE} = 5\text{V}$	10			

DYNAMIC CHARACTERISTICS

f_T^2	Current-Gain Bandwidth Product	$I_C = 250\text{mA}$ $V_{CE} = 10\text{V}$ $f = 10\text{MHz}$	20			MHz
C_{obo}	Output Capacitance	$I_E = 0$ $V_{CB} = 10\text{V}$ $f = 1.0\text{MHz}$			250	pF

SWITCHING CHARACTERISTICS

t_r	Rise Time	$I_C = 1.0\text{A}$ $V_{CC} = 200\text{V}$ $I_B = 0.1\text{A}$		0.5		μs
t_s	Storage Time	$I_C = 1.0\text{A}$ $V_{CC} = 200\text{V}$		3.5		
t_f	Fall Time	$I_{B1} = I_{B2} = 0.1\text{A}$		0.5		

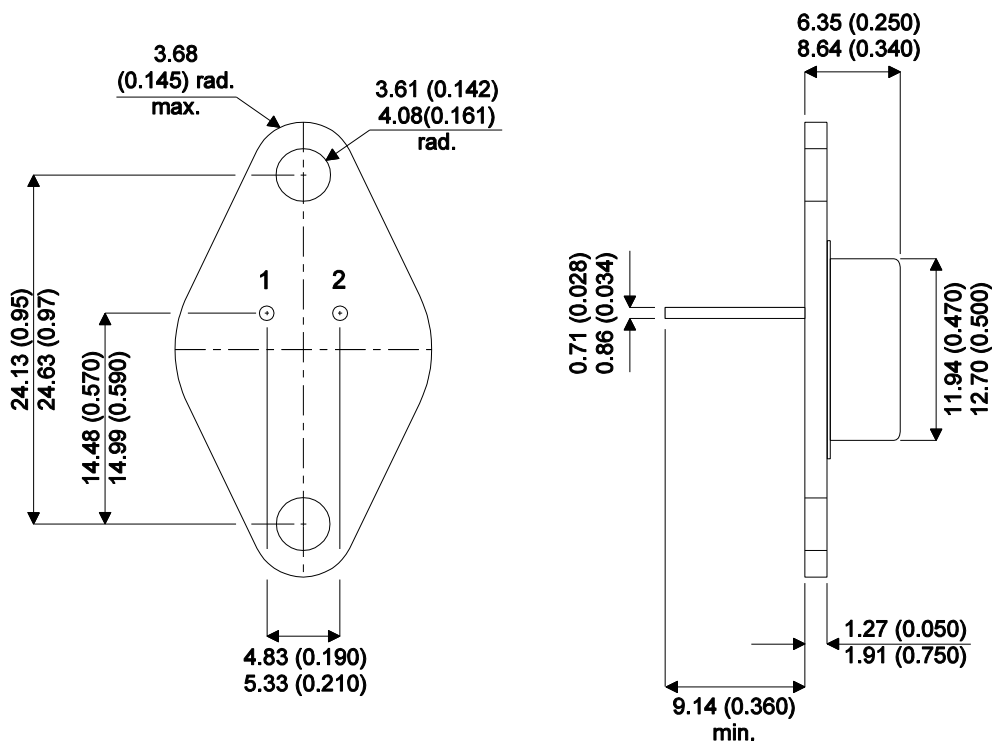
¹ Pulse Test: $t_p = 300\mu\text{s}$, $\delta \leq 2\%$

² $f_T = |h_{fe}| \times f_{rest}$

SILICON NPN POWER TRANSISTOR 2N6235R

Mechanical Data

Dimensions in mm (inches)



TO66 (TO-213AA)

Pin 1 - Base

Pin 2 - Emitter

Case - Collector