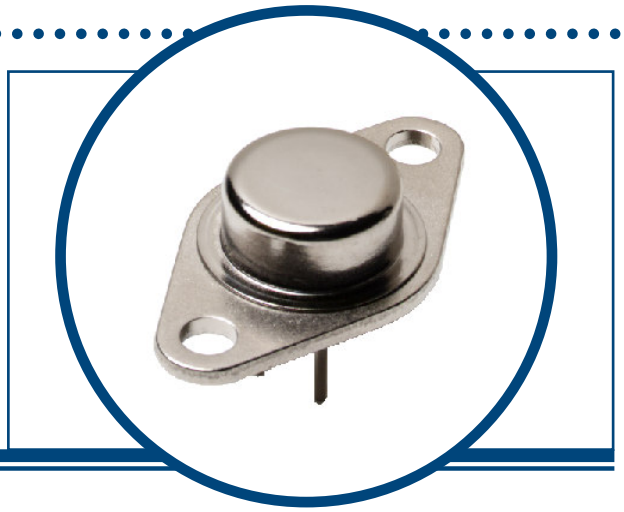
SILICON EPITAXIAL NPN TRANSISTOR

TT electronics
Semelab Limited

2N4912

- Low Saturation Voltage Transistor In A Hermetic Metal Package
- Designed For Driver Circuits, Switching and Amplifier Applications
- Screening Options Available



ABSOLUTE MAXIMUM RATINGS (T_C = 25°C unless otherwise stated)

V_{CBO}	Collector - Base Voltage		80V
V_{CEO}	Collector - Emitter Voltage		80V
V_{EBO}	Emitter – Base Voltage		5V
I_C	Continuous Collector Current		1.0A
I_B	Base Current		1.0A
P_D	Total Power Dissipation at	T_C = 25°C	25W
		Derate Above 25°C	0.143W/°C
T_J	Junction Temperature Range		-65 to +200°C
T_{stg}	Storage Temperature Range		-65 to +200°C

THERMAL PROPERTIES

Symbols	Parameters	Min.	Typ.	Max.	Units
$R_{\theta JC}$	Thermal Resistance, Junction To Case			7	°C/W

SEMELAB
A subsidiary of TT electronics plc.

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Document Number 8104
Issue 1

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ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise stated)

Symbols	Parameters	Test Conditions		Min.	Typ.	Max.	Units
$V_{(BR)CEO}$*	Collector-Emitter Breakdown Voltage	I_C = 10mA	I_B = 0	80			V
I_{CEO}	Collector-Emitter Cut-Off Current	V_{CE} = 40V	I_B = 0			0.5	mA
I_{CEX}	Collector-Emitter Cut-Off Current	V_{CE} = 80V	V_{BE} = -1.5V			0.1	
		V_{CE} = 80V	V_{BE} = -1.5V T_C = 150°C			1.0	
I_{EBO}	Emitter-Base Cut-Off Current	V_{EB} = 5V	I_C = 0			1.0	
I_{CBO}	Collector-Base Cut-Off Current	V_{CB} = 80V	I_E = 0			0.1	
V_{BE}*	Base-Emitter Voltage	I_C = 1.0A	V_{CE} = 1.0V			1.3	V
$V_{CE(sat)}$*	Collector-Emitter Saturation Voltage	I_C = 1.0A	I_B = 100mA			0.6	
$V_{BE(sat)}$*	Base-Emitter Saturated Voltage	I_C = 1.0A	I_B = 100mA			1.3	
h_{FE}*	Forward-current transfer ratio	I_C = 50mA	V_{CE} = 1.0V	40			
		I_C = 500mA	V_{CE} = 1.0V	20		100	
		I_C = 1.0A	V_{CE} = 1.0V	10			

DYNAMIC CHARACTERISTICS

f_T	Transition Frequency	I_C = 250mA f = 1.0MHz	V_{CE} = 10V	3.0	22		MHz
h_{fe}	Small-Signal Current Gain	I_C = 250mA f = 1.0KHz	V_{CE} = 10V	25	70		
C_{obo}	Output Capacitance	I_E = 0 f = 1.0MHz	V_{CB} = 10V		45	100	pF

* Pulse Test: t_p = 300us, δ ≤ 2%

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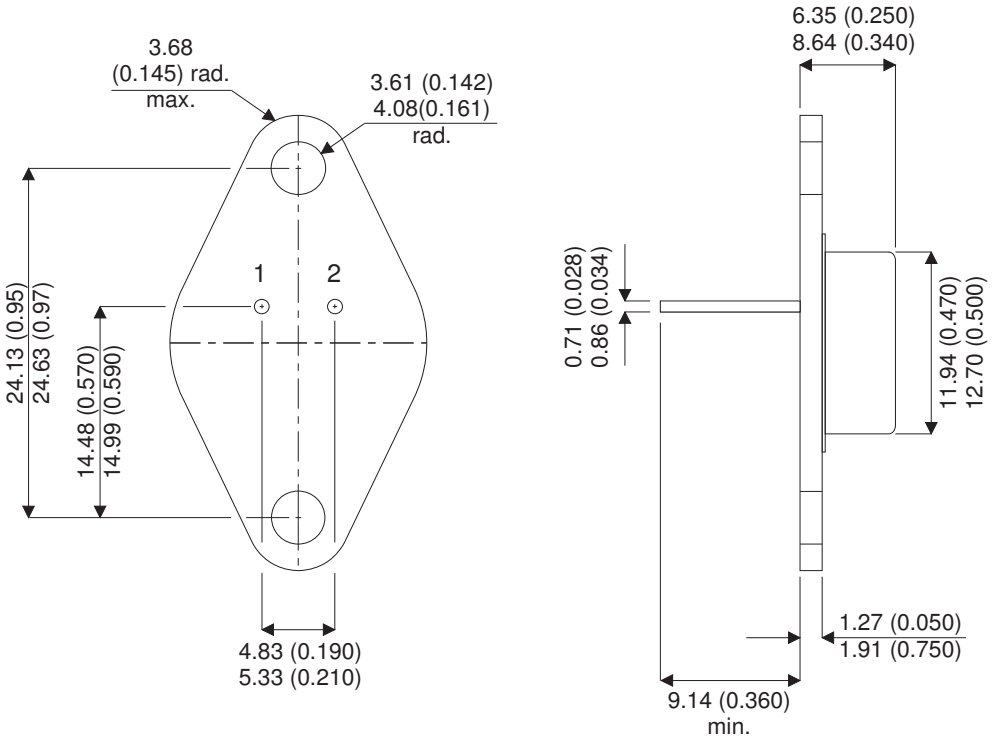
Mechanical Data

Dimensions in mm (inches)



TO66 (TO-213AA)

Pin 1 - Base Pin 2 - Emitter Case - Collector

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