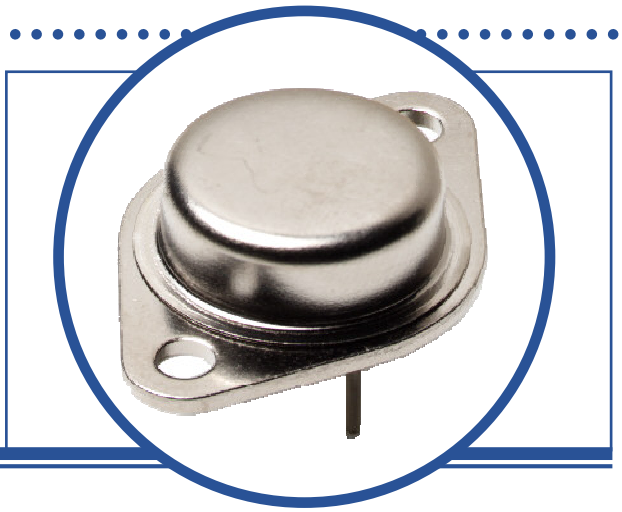
SILICON EPITAXIAL NPN TRANSISTOR

TT electronics
Semelab Limited

2N4913

- Low Collector Saturation Voltage.
- Hermetic TO3 Metal Package.
- Designed For General Purpose, Switching and Power Amplifier Applications
- Screening Options Available



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

V_{CBO}	Collector – Base Voltage		40V
V_{CEO}	Collector – Emitter Voltage		40V
V_{EBO}	Emitter – Base Voltage		5V
I_C	Continuous Collector Current		5A
I_B	Base Current		1.0A
P_D	Total Power Dissipation at	T_C = 25°C	87.5W
		Derate Above 25°C	0.5W/°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			2	°C/W

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

Symbols	Parameters	Test Conditions		Min.	Typ	Max.	Units
$V_{(BR)CEO}$ [1]	Collector-Emitter Breakdown Voltage	I_C = 10mA		40			V
I_{CEV}	Collector Cut-Off Current	V_{CE} = 40V	V_{BE} = -1.5V			1.0	mA
			T_C = 150°C			2	
I_{CEO}	Collector Cut-Off Current	V_{CE} = 40V	I_B = 0			1.0	
I_{CBO}	Collector Cut-Off Current	V_{CB} = 40V	I_E = 0			1.0	
I_{EBO}	Emitter Cut-Off Current	V_{EB} = 5V	I_C = 0			1.0	
h_{FE} [1]	Forward-current transfer ratio	I_C = 2.5A	V_{CE} = 2V	25		100	
		I_C = 5A	V_{CE} = 2V	7			
$V_{BE(on)}$ [1]	Base-Emitter Voltage	I_C = 2.5A	V_{CE} = 2V			1.4	V
$V_{CE(sat)}$ [1]	Collector-Emitter Saturation Voltage	I_C = 2.5A	I_B = 0.25A			1.0	
		I_C = 5A	I_B = 1.0A			1.5	

DYNAMIC CHARACTERISTICS

h_{fe}	Small-Signal Current Gain	I_C = 500mA f = 1.0KHz	V_{CE} = 10V	20			
f_T	Transition Frequency	I_C = 1.0A f = 1.0MHz	V_{CE} = 10V	4			MHz

Notes
(1) Pulse Width ≤ 300us, δ ≤ 2%

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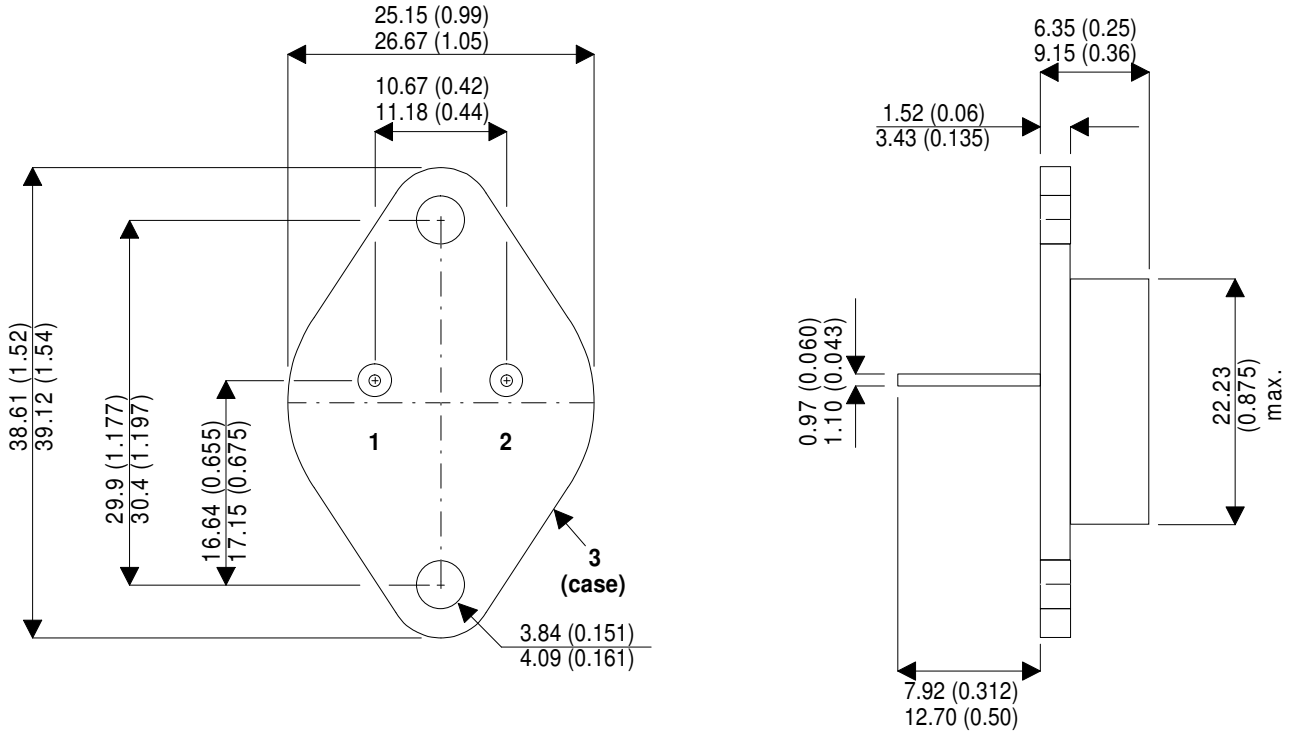
MECHANICAL DATA

Dimensions in mm (inches)



TO3 (TO-204AA) METAL PACKAGE

Underside View

Pin 1 - Base Pin 2 - Emitter Case - Collector