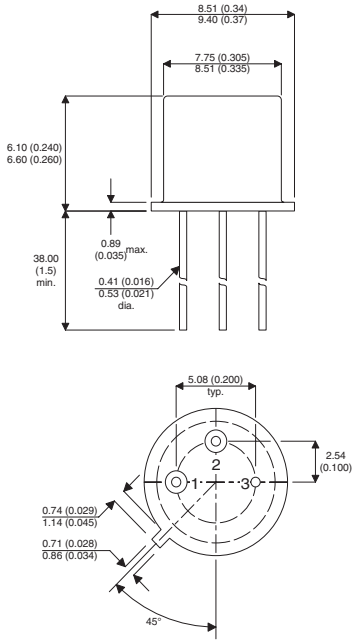
2N5015
2N5015S

MECHANICAL DATA

Dimensions in mm (inches)



TO5 (TO-205AA)

Underside View

PIN 1 – Emitter **PIN 2 – Base** **PIN 3 – Collector**

HIGH VOLTAGE SILICON EPITAXIAL NPN TRANSISTOR

FEATURES

- **SILICON PLANAR EPITAXIAL NPN TRANSISTOR**
- **HIGH BREAKDOWN VOLTAGE**
- **LOW SATURATION VOLTAGE**
- **HERMETIC TO5 or TO39 ('S' Suffix) PACKAGE**
- **HI-RELIABILITY SCREENING OPTIONS AVAILABLE**

APPLICATIONS

For high reliability general purpose high voltage switching and linear applications requiring small size and low weight devices.

ABSOLUTE MAXIMUM RATINGS T_{CASE} = 25°C unless otherwise stated

V_{CBO}	Collector - Base Voltage		1000V
V_{CER}	Collector - Emitter Voltage (R_{BE} = 1.0KΩ)		1000V
V_{EBO}	Emitter – Base Voltage		5V
I_C	Continuous Collector Current		0.5A
P_{tot}	Total Power Dissipation	T_{case} = 50°C	2W
	De-rate Linearly	T_{case} > 25°C	20mW/°C
T_{stg}, T_J	Operating and Storage Temperature Range		-55 to +150°C

Semelab Plc 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 plc. Telephone +44(0)1455 556565. Fax +44(0)1455 552612.
E-mail: sales@semelab.co.uk Website: http://www.semelab.co.uk

2N5015
2N5015S

THERMAL CHARACTERISTICS

$R_{\theta JC}$	Thermal Resistance Junction - Case	Max	50	°C/W
$R_{\theta JA}$	Thermal Resistance Junction - Ambient	Max	175	°C/W

ELECTRICAL CHARACTERISTICS (T_{case}=25°C unless otherwise stated)

	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
$V_{(BR)CER}$*	Collector - Emitter Breakdown Voltage	I_C = 100µA	R_{BE} = 1.0KΩ	1000	-	-	V
$V_{(BR)CBO}$*	Collector - Base Breakdown Voltage	I_C = 200µA		1000	-	-	
$V_{(BR)EBO}$*	Emitter - Base Breakdown Voltage	I_C = 0	I_E = 50µA	5.0	-	-	
I_{CBO}*	Collector - Base Cut-Off Current	V_{CB} = 760V		-	-	12	µA
			T_{CASE} = 100°C	-	10	100	
I_{EBO}*	Emitter - Base Cut-Off Current	V_{EB} = 4V		-	-	20	
$V_{CE(sat)}$*	Collector - Emitter Saturation Voltage	I_C = 20mA	I_B = 5.0mA	-	-	1.8	V
$V_{BE(sat)}$*	Base - Emitter Saturation Voltage	I_C = 20mA	I_B = 5.0mA	-	-	1.0	V
h_{FE}*	DC Current Gain	I_C = 5mA	V_{CE} = 10V	10	-	-	
		I_C = 20mA	V_{CE} = 10V	30	-	180	
			T_{CASE} = -55°C	10	-	-	

DYNAMIC CHARACTERISTICS (T_{case}=25°C unless otherwise stated)

f_T	Transition Frequency	I_C = 20mA f = 10MHz	V_{CE} = 10V	10	-	-	MHz
C_{OBO}	Open Circuit Output Capacitance	I_E = 0 f = 1.0MHz	V_{CB} = 10V	-	-	30	pF

* Pulse test t_p = 300µs, δ < 2%

Semelab Plc 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 plc. Telephone +44(0)1455 556565. Fax +44(0)1455 552612.
E-mail: sales@semelab.co.uk Website: http://www.semelab.co.uk