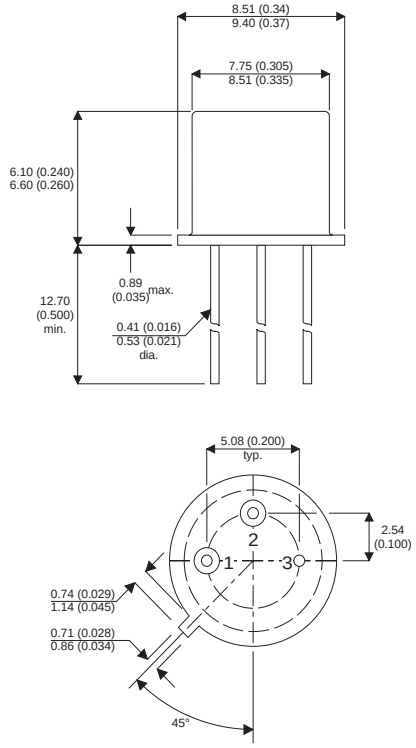
2N5666
2N5667

MECHANICAL DATA
Dimensions in mm (inches)



TO-39 (TO-205AD)

Underside View

1 = Emitter 2 = Base 3 = Collector

NPN BIPOLAR POWER SWITCHING TRANSISTORS

FEATURES
- **FAST SWITCHING**
- **CECC SCREENING OPTIONS**
- **SPACE QUALITY LEVELS OPTIONS**
- **JAN LEVEL SCREENING OPTIONS**

APPLICATIONS
- **HIGH SPEED SWITCHING CIRCUITS**
- **POWER AMPLIFIERS**

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

		2N5666	2N5667
V_{CBO}	Collector – Base Voltage	250V	400V
V_{CEO}	Collector – Emitter Voltage (I_B = 0)	200V	300V
V_{EBO}	Emitter – Base Voltage (I_B = 0)	6V	
I_B	Base Current	1.0A	
I_C	Collector Current	5.0A	
P_D	Power Dissipation @ T_C = 25°C	26W	
P_D	Power Dissipation @ T_A = 25°C	1.2W	
$R_{\theta JC}$	Thermal Resistance Junction to Case	6.73°C/W	
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	145.8°C/W	
T_J , T_{STG}	Operating and Storage Junction Temperature Range	–65 to +200°C	

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

Document Number 5382
Issue 3

2N5666
2N5667

ELECTRICAL CHARACTERISTICS - 2N5666 (T_A = 25°C unless otherwise stated)

	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{(BR)CEO}$	Collector – Emitter Breakdown Voltage	I_C = 1mA	200			V
$V_{(BR)EBO}$	Emitter – Base Breakdown Voltage	I_E = 10µA	6.0			
I_{CER}	Collector – Emitter Cut-off Current	V_{CE} = 250V R_B = 100Ω			100	µA
I_{CES}	Collector – Emitter Cut-off Current	V_{CE} = 200V I_B = 0			0.2	
I_{CBO}	Collector – Base Cut-off Current	V_{CB} = 200V			0.1	mA
		V_{CB} = 250V			1.0	
$V_{CE(sat)}$	Collector – Emitter Saturation Voltage*	I_C = 3.0A I_B = 0.6A			0.4	V
		I_C = 5.0A I_B = 1.0A			1.0	
$V_{BE(sat)}$	Base – Emitter On Voltage*	I_C = 3.0A I_B = 0.6A			1.2	
		I_C = 5.0A I_B = 1.0A			1.5	
h_{FE}	DC Current Gain*	I_C = 0.5A V_{CE} = 2V	40			—
		I_C = 1.0A V_{CE} = 5V	40		120	
		I_C = 3.0A V_{CE} = 5V	15			
		I_C = 5.0A V_{CE} = 5V	5			
C_{obo}	Output Capacitance	V_{CB} = 10V I_E = 0A 100kHz < f > 1MHz			120	pF
$[h_{fe}]$	Small Signal Current Gain	f = 10MHz I_C = 0.5A V_{CE} = 5V	2.0		7.0	—
t_{on}	Turn on time	I_{B1} = 30mA I_C = 1.0A V_{CC} = 100V			0.25	µs
t_{off}	Turn off time	I_{B1} = -I_{B2} = 50mA I_C = 1.0A V_{CC} = 30V			1.5	

NOTES

* Pulse Test: t_p = 300µs, δ ≤ 2%

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ELECTRICAL CHARACTERISTICS - 2N5667 (T_A = 25°C unless otherwise stated)

	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$V_{(BR)CEO}$	Collector – Emitter Breakdown Voltage	I_C = 1mA	300			V
$V_{(BR)EBO}$	Emitter – Base Breakdown Voltage	I_E = 10µA	6.0			
I_{CER}	Collector – Emitter Cut-off Current	V_{CE} = 400V R_B = 100Ω			100	µA
I_{CES}	Collector – Emitter Cut-off Current	V_{CE} = 300V I_B = 0			0.2	
I_{CBO}	Collector – Base Cut-off Current	V_{CB} = 300V			0.1	mA
		V_{CB} = 400V			1.0	
$V_{CE(sat)}$	Collector – Emitter Saturation Voltage*	I_C = 3.0A I_B = 0.6A			0.4	V
		I_C = 5.0A I_B = 1.0A			1.0	
$V_{BE(sat)}$	Base – Emitter On Voltage*	I_C = 3.0A I_B = 0.6A			1.2	
		I_C = 5.0A I_B = 1.0A			1.5	
h_{FE}	DC Current Gain*	I_C = 0.5A V_{CE} = 2V	25			—
		I_C = 1.0A V_{CE} = 5V	25		75	
		I_C = 3.0A V_{CE} = 5V	10			
		I_C = 5.0A V_{CE} = 5V	5			
C_{obo}	Output Capacitance	V_{CB} = 10V I_E = 0A 100kHz < f > 1MHz			120	pF
$[h_{fe}]$	Small Signal Current Gain	f = 10MHz I_C = 0.5A V_{CE} = 5V	2.0		7.0	—
t_{on}	Turn on time	I_{B1} = 30mA I_C = 1.0A V_{CC} = 100V			0.25	µs
t_{off}	Turn off time	I_{B1} = -I_{B2} = 50mA I_C = 1.0A V_{CC} = 30V			2.0	

NOTES

* Pulse Test: t_p = 300µs, δ ≤ 2%

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