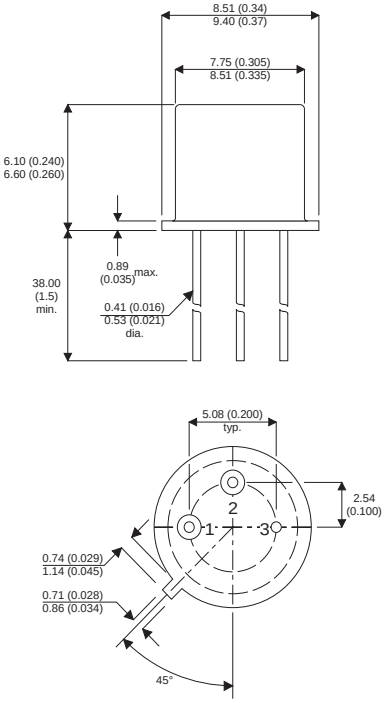
2N5662
2N5663

NPN BIPOLAR POWER SWITCHING TRANSISTORS

MECHANICAL DATA
Dimensions in mm (inches)



TO-5 (TO-205AA)

Underside View

1 = Emitter 2 = Base 3 = Collector

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)		2N5662	2N5663
V_{CBO}	Collector – Base Voltage	250V	400V
V_{CEO}	Collector – Emitter Voltage (I_B = 0)	200V	300V
V_{EBO}	Emitter – Base Voltage (I_C = 0)	6V	
I_B	Base Current	0.5A	
I_C	Collector Current	2.0A	
P_D	Power Dissipation @ T_C = 25°C	35W	26W
P_D	Power Dissipation @ T_A = 25°C	2.0W	1.0W
$R_{\theta JC}$	Thermal Resistance Junction to Case	5.0°C/W	6.67°C/W
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	87.5°C/W	175.4°C/W
T_J , T_{STG}	Operating and Storage Junction Temperature Range	–65 to +200°C	

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SEME LAB

2N5662
2N5663

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

Parameter			Test Conditions		Min.	Typ.	Max.	Unit
$V_{(BR)CEO}$*	Collector – Emitter Breakdown Voltage	2N5662	I_C = 10mA		200			V
		2N5663			300			
$V_{(BR)EBO}$	Emitter – Base Breakdown Voltage		I_E = 10µA		6.0			
I_{CES}	Collector – Emitter Cut-off Current (I_B = 0)		V_{CE}1 = 200V	V_{CE}2 = 300V			0.2	µA
I_{CBO}	Collector – Base Cut-off Current		V_{CB}1 = 200V	V_{CB}2 = 300V			0.1	µA
			V_{CB}1 = 250V	V_{CB}2 = 400V			1.0	mA
$V_{CE(sat)}$*	Collector – Emitter Saturation Voltage		I_C = 1.0A	I_B = 0.1A			0.4	V
			I_C = 2.0A	I_B = 0.4A			0.8	
$V_{BE(sat)}$*	Base – Emitter On Voltage		I_C = 1.0A	I_B = 0.1A			1.2	
			I_C = 2.0A	I_B = 0.4A			1.5	
h_{FE}*	DC Current Gain	2N5662	I_C = 50mA	V_{CE} = 2V	40			—
		2N5663	I_C = 50mA	V_{CE} = 2V	25			
		2N5662	I_C = 0.5A	V_{CE} = 5V	40		120	
		2N5663	I_C = 0.5A	V_{CE} = 5V	25		75	
		Both	I_C = 1.0A	V_{CE} = 5V	15			
		Both	I_C = 2.0A	V_{CE} = 5V	5.0			
C_{obo}	Output Capacitance		V_{CB} = 10V 100kHz < f < 1MHz	I_E = 0A			45	pF
$[h_{fe}]$	Small Signal Current Gain		f = 10MHz I_C = 0.1A	V_{CE} = 5V	2.0		7.0	—
t_{on}	Turn on time		I_{B1}1 = 15mA I_C = 0.5A	I_{B1}2 = 25mA V_{CC} = 100V			0.25	µs
t_{off}	Turn off time	2N5662	I_{B1}1 = -I_{B2} = 15mA I_C = 0.5A	V_{CC} = 100V			0.85	
		2N5663	I_{B1}2 = -I_{B2} = 25mA I_C = 0.5A	V_{CC} = 100V			1.2	

NOTES

* Pulse Test: t_p = 300µs, δ ≤ 2%

1) Value for the 2N5662
2) Value for the 2N5663

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