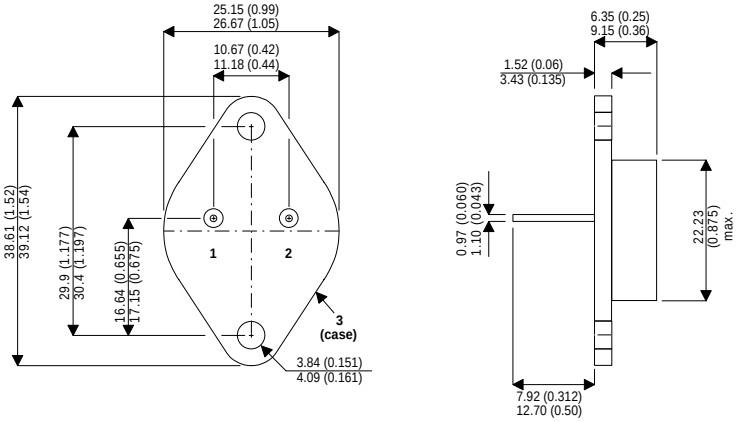
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MECHANICAL DATA
Dimensions in mm (inches)

NPN BIPOLAR POWER DARLINGTON TRANSISTOR



FEATURES

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

APPLICATIONS

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

TO-3 (TO-204AA)

Underside View

1 = Emitter 2 = Base 3 = Collector

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

V_{CBO}	Collector – Base Voltage (I_E = 0)	120V
V_{CEO}	Collector – Emitter Voltage (I_B = 0)	120V
V_{EBO}	Emitter – Base Voltage (I_C = 0)	7V
I_B	Base Current	250mA
I_C	Collector Current	15A
P_D	Power Dissipation @ T_C = 25°C	120W
$R_{\theta JC}$	Thermal Resistance Junction to Case	1.46°C/W
T_J , T_{STG}	Operating and Storage Junction Temperature Range	–65 to +200°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.

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SEME LAB

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

	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
BV_{CEO}	Collector – Emitter Breakdown Voltage	I_C = 200mA	120			V
I_{CBO}	Collector – Base Cut-off Current	V_{CB} = 120V			500	µA
I_{CEV}	Collector – Emitter Cut-off Current	V_{CEV} = 120V $V_{BE(off)}$ = 1.5V			5.0	mA
I_{CER}	Collector – Emitter Cut-off Current	V_{CER} = 120V R_{BE} = 10kΩ T_C = 150°C			5.0	
I_{CEO}	Collector – Base Cut-off Current	V_{CE} = 120V			1.0	
$V_{CE(sat)}$	Collector – Emitter Saturation Voltage	I_C = 10A I_B = 100mA			2.8	V
		I_C = 15A I_B = 150mA			4.0	
$V_{BE(sat)}$	Base – Emitter On Voltage	I_C = 10A I_B = 100mA			3.5	
		I_C = 15A I_B = 150mA			4.5	
h_{FE}	DC Current Gain	I_C = 0.4A V_{CE} = 3V	200			—
		I_C = 4.0A V_{CE} = 3V	2000		20000	
		I_C = 10A V_{CE} = 3V	500		5000	
		I_C = 15A V_{CE} = 4V	100			
V_F	Forward Voltage	I_{EC} = 15A	4.5			V
$[h_{fe}]$	Small Signal Current Gain	V_{CE} = 3V I_C = 3A f = 1.0MHz	10		200	—
t_d	Delay Time	I_C = 10A V_{CC} = 30V			0.15	µs
t_r	Rise time	I_{B1} = 100mA			1.0	
t_s	Storage Time	I_C = 10A V_{CC} = 30V			2.0	
t_f	Fall Time	I_{B1} = -I_{B2} = 100mA			7.0	

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