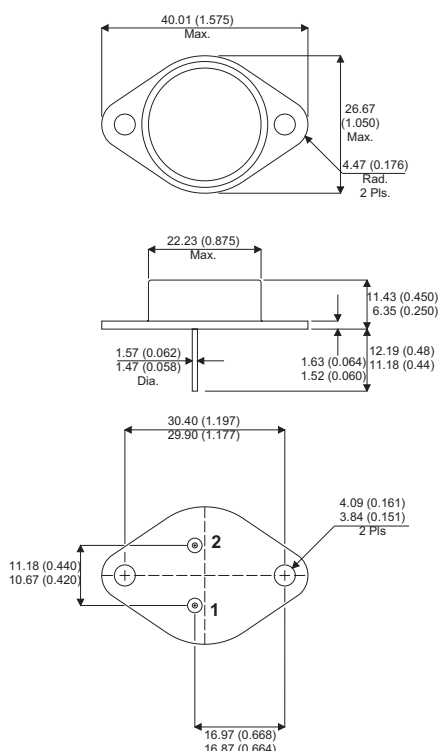


MECHANICAL DATA

Dimensions in mm (inches)



TO-3 (TO-204AA)

Pin 1 – Base Pin 2 – Emitter Case – Collector

COMPLEMENTARY DARLINGTON POWER TRANSISTOR

FEATURES

- HIGH DC CURRENT GAIN
 $h_{FE} = 25 \text{ Min @ } I_C = 5A$
- FOR LOW DISTORTION COMPLEMENTARY DESIGNS
- JUNCTION TEMPERATURE TO +200°C

APPLICATIONS

The MJ15003 and MJ15004 are power transistors designed for high power audio and other linear applications.

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^\circ C$ unless otherwise stated)

V_{CEO}	Collector – Emitter Voltage	140V
V_{CBO}	Collector – Base Voltage	140V
V_{EBO}	Emitter – Base Voltage	5V
I_C	Continuous Collector Current	20A
I_B	Base Current	5A
P_{tot}	Total Dissipation at $T_{case} = 25^\circ C$	250W
	Derate above 25°C	1.43W/°C
T_{STG}, T_J	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.

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
OFF CHARACTERISTICS					
$V_{CEO(sus)}^*$	Collector – Emitter Breakdown Voltage	$I_C = 200mA$	$I_B = 0$	140	V
I_{CEX}	Collector – Emitter Cut-Off Current	$V_{CE} = 140V$	$V_{BE} = 1.5V$		100
				$T_C = 150^\circ C$	2
I_{CEO}	Collector – Emitter Cut-Off Current	$V_{CE} = 140V$	$I_B = 0$		250
I_{EBO}	Emitter – Base Cut-Off Current	$V_{EB} = 5V$	$I_C = 0$		100
ON CHARACTERISTICS					
h_{FE}^*	DC Current Gain	$V_{CE} = 2V$	$I_C = 5A$	25	150
$V_{CE(sat)}^*$	Collector – Emitter Saturation Voltage	$I_C = 5A$	$I_B = 500mA$		1
$V_{BE(on)}^*$	Base – Emitter On Voltage	$I_C = 5A$	$V_{CE} = 2V$		2
DYNAMIC CHARACTERISTICS					
f_T	Transition Frequency	$I_C = 0.5A$	$V_{CE} = 10V$	$f = 500KHz$	2
C_{ob}	Output Capacitance	$I_E = 0$	$V_{CB} = 10V$	$f = 1MHz$	1000

* Pulse Test: $t_p \leq 300\mu s$, $\delta \leq 2\%$.