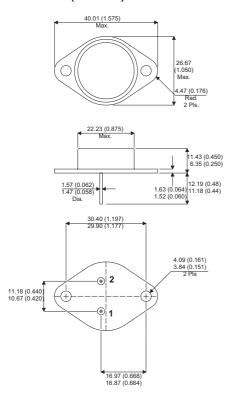


MJ15003 - NPN MJ15004 - PNP

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°C unless otherwise stated)

$\overline{V_{CEO}}$	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°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.

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MJ15003 - NPN MJ15004 - PNP

	Parameter	Test Condition	ons	Min.	Тур.	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	μΑ	
			T _C = 150°C			2	mΑ	
I _{CEO}	Collector – Emitter Cut–Off Current	V _{CE} = 140V	I _B = 0			250	μΑ	
I _{EBO}	Emitter – Base Cut-Off Current	V _{EB} = 5V	I _C = 0			100	μΛ	
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	$I_B = 500 \text{mA}$			1	V	
V _{BE(on)*}	Base – Emitter On Voltage	I _C = 5A	V _{CE} = 2V			2	v	
DYNAMIC CHARACTERISTICS								
f _T	Transition Frequency	$I_C = 0.5A V_{CE}$	= 10V f = 500KHz	2			MHz	
C _{ob}	Output Capacitance	$I_E = 0$ V_{CB}	= 10V f = 1MHz			1000	pF	

^{*} Pulse Test: $t_p \le 300 \mu s$, $\delta \le 2\%$.

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