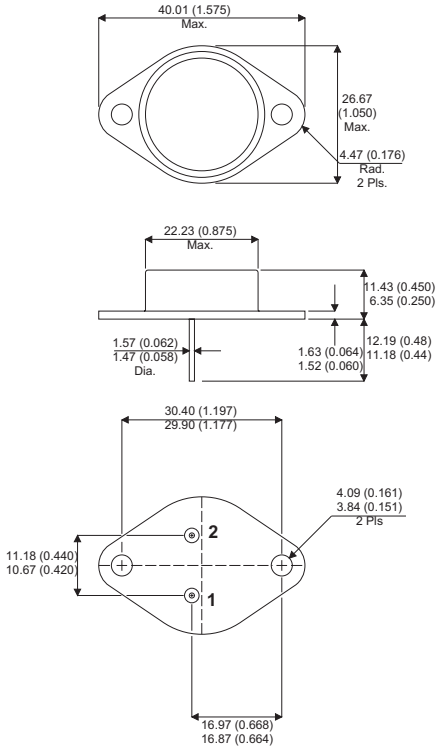
MJ2501 - PNP
MJ3001 - NPN

MECHANICAL DATA
Dimensions in mm (inches)



TO–3 (TO-204AA)

Pin 1 – Base Pin 2 – Emitter Case – Collector

COMPLEMENTARY DARLINGTON POWER TRANSISTOR

APPLICATIONS

The MJ2501 is a silicon power transistor in a monolithic Darlington configuration mounted in a traditional TO-3 metal case.

The complementary NPN type is the MJ3001

They are intended for use in power linear and switching applications.

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C unless otherwise stated)

V_{CEO}	Collector – Emitter Voltage	80V
V_{CBO}	Collector – Base Voltage	80V
V_{EBO}	Emitter – Base Voltage	5V
I_C	Continuous Collector Current	10A
I_B	Base Current	0.2A
P_{tot}	Total Dissipation at T_{case} = 25°C	150W
	Derate above 25°C	1.17°C/W
T_{STG} , T_J	Operating and Storage Junction Temperature Range	–65 to +200°C

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MJ3001 - NPN

	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
	OFF CHARACTERISTICS						
$V_{CEO(sus)}$*	Collector – Emitter Breakdown Voltage	I_C = 100mA	I_B = 0	80			V
I_{CER}	Collector – Emitter Cut-Off Current	V_{CE} = 80V				1	mA
	(R_{BE} = 1KΩ)		T_C = 150°C			5	
I_{CEO}	Collector – Emitter Cut–Off Current	V_{CE} = 30V				1	
	(I_B = 0)	V_{CE} = 40V				1	
I_{EBO}	Emitter – Base Cut-Off Current	V_{EB} = 5V	I_C = 0			2	mA
h_{FE}*	DC Current Gain	V_{CE} = 3V	I_C = 5A	1000			—
$V_{CE(sat)}$*	Collector – Emitter Saturation Voltage	I_C = 5A	I_B = 20mA			2	V
		I_C = 10A	I_B = 50mA			4	
$V_{BE(on)}$*	Base – Emitter On Voltage	I_C = 5A	V_{CE} = 3V			3	

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

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