



## PNP MJ3000 – MJ3001

### COMPLEMENTARY POWER DARLINGTONS

The MJ3000, and MJ3001 are silicon epitaxial-base PNP power transistors in monolithic Darlington configuration and are mounted in Jedec TO-3 metal case. They are intended for use in power linear and switching applications.

The complementary PNP types are the MJ2500 and MJ2501 respectively

Compliance to RoHS

### ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings			Value	Unit
$V_{CBO}$	Collector-Base Voltage	$I_E=0$	MJ3000	60	V
			MJ3001	80	
$V_{CEO}$	Collector-Emitter Voltage	$I_B=0$	MJ3000	60	V
			MJ3001	80	
$V_{EBO}$	Emitter-Base Voltage	$I_C=0$	MJ3000	5.0	V
			MJ3001		
$I_C$	Collector Current		MJ3000	10	A
			MJ3001		
$I_B$	Base Current		MJ3000	0.2	A
			MJ3001		
$P_T$	Power Dissipation	@ $T_C < 25^\circ$	MJ3000	150	W
			MJ3001		
$T_J$	Junction Temperature		MJ3000	200	°C
$T_s$	Storage Temperature		MJ3001	-65 to +200	

### THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
$R_{thJ-C}$	Thermal Resistance, Junction to Case	1.17	°C/W

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### ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

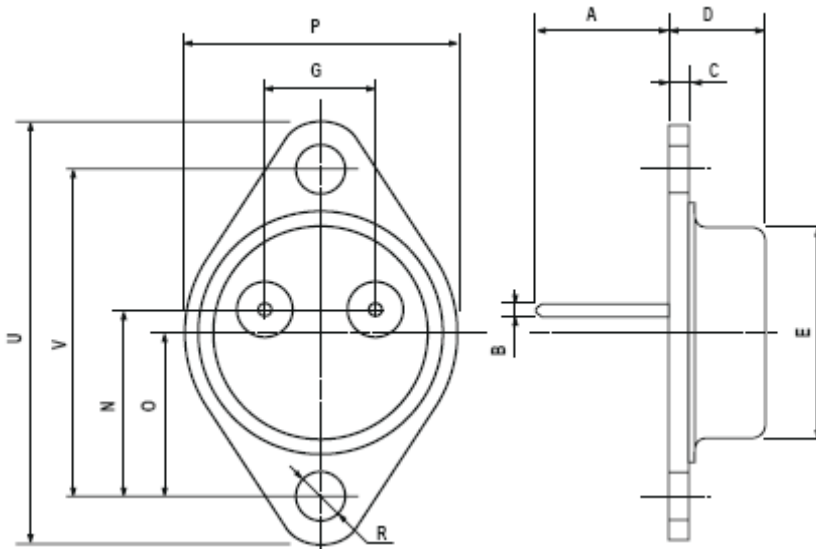
Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit		
<b>BV<sub>CEO</sub></b>	Collector-Emitter Breakdown Voltage (*)	I <sub>C</sub> =100mA I <sub>B</sub> =0	MJ3000 60	-	-	V		
			MJ3001 80	-	-			
<b>I<sub>CEO</sub></b>	Collector Cutoff Current	V <sub>CE</sub> =30 V I <sub>B</sub> =0	MJ3000	-	-	1.0	mA	
		V <sub>CE</sub> =40 V I <sub>B</sub> =0	MJ3001	-	-			
<b>I<sub>EBO</sub></b>	Emitter Cutoff Current	V <sub>BE</sub> =5.0 V I <sub>C</sub> =0	MJ3000 MJ3001	-	-	2.0	mA	
<b>I<sub>CER</sub></b>	Collector-Emitter Leakage Current	V <sub>CB</sub> =60 V R <sub>BE</sub> =1.0 kΩ	MJ3000	-	-	1.0	mA	
		V <sub>CB</sub> =80 V R <sub>BE</sub> =1.0 kΩ	MJ3001	-	-			
		V <sub>CB</sub> =60 V R <sub>BE</sub> =1.0 kΩ T <sub>C</sub> =150°C	MJ3000	-	-	5.0		
		V <sub>CB</sub> =80 V R <sub>BE</sub> =1.0 kΩ T <sub>C</sub> =150°C	MJ3001	-	-			
<b>V<sub>CE(SAT)</sub></b>	Collector-Emitter saturation Voltage (*)	I <sub>C</sub> =5.0 A I <sub>B</sub> =20 mA	MJ3000 MJ3001	-	-	2.0	V	
		I <sub>C</sub> =10 A I <sub>B</sub> =50 mA	MJ3000 MJ3001	-	-	4.0		
<b>V<sub>BE</sub></b>	Base-Emitter Voltage (*)	I <sub>C</sub> =5.0 A V <sub>CE</sub> =3.0V	MJ3000 MJ3001	-	-	3	V	
<b>h<sub>FE</sub></b>	DC Current Gain (*)	V <sub>CE</sub> =3.0 V I <sub>C</sub> =5.0 A	MJ3000 MJ3001	1000	-	-	-	

(\*) Pulse Width ≈ 300 μs, Duty Cycle < 2.0%

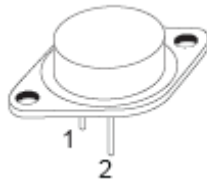
## PNP MJ3000 – MJ3001

### MECHANICAL DATA CASE TO-3

DIMENSIONS (mm)		
	min	max
A	11	13.10
B	0.97	1.15
C	1.5	1.65
D	8.32	8.92
F	19	20
G	10.70	11.1
N	16.50	17.20
P	25	26
R	4	4.09
U	38.50	39.30
V	30	30.30



Pin 1 :	Base
Pin 2 :	Emitter
Case :	Collector



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