



PNP| MJ2500/MJ2501
NPN| MJ3000/MJ3001

COMPLEMENTARY POWER DARLINGTONS

The MJ2500, and MJ2501 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 NPN types are the MJ3000 and MJ3001 respectively.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings			Value	Unit
V_{CBO}	Collector-Base Voltage	$I_E=0$	MJ2500	60	Vdc
			MJ3000		
			MJ2501	80	
			MJ3001		
V_{CEO}	Collector-Emitter Voltage	$I_B=0$	MJ2500	60	Vdc
			MJ3000		
			MJ2501	80	
			MJ3001		
V_{EBO}	Emitter-Base Voltage	$I_C=0$	MJ2500	5.0	Vdc
			MJ3000		
			MJ2501		
			MJ3001		
I_C	Collector Current		MJ2500	10	Adc
			MJ3000		
			MJ2501		
			MJ3001		
I_B	Base Current		MJ2500	0.2	Adc
			MJ3000		
			MJ2501		
			MJ3001		
P_T	Power Dissipation	@ $T_C < 25^\circ$	MJ2500	150	Watts
			MJ3000		
			MJ2501		
			MJ3001		
$T_J T_s$	Junction Storage Temperature		MJ2500	200 -65 to +200	$^\circ\text{C}$
			MJ3000		
			MJ2501		
			MJ3001		



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THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJ-C}	Thermal Resistance, Junction to Case MJ2500 MJ3000 MJ2501 MJ3001	1.17	°C/W

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit
BV_{CEO}	Collector-Emitter Breakdown Voltage (*)	$I_C=100 \text{ mAdc}$, $I_B=0$	60	-	-	Vdc
			80	-	-	
I_{CEO}	Collector Cutoff Current	$V_{CE}=30 \text{ Vdc}$, $I_B=0$	-	-	1.0	mAdc
		$V_{CE}=40 \text{ Vdc}$, $I_B=0$	-	-		
I_{EBO}	Emitter Cutoff Current	$V_{BE}=5.0 \text{ Vdc}$, $I_C=0$	-	-	2.0	mAdc
I_{CER}	Collector-Emitter Leakage Current	$V_{CB}=60 \text{ V}$, $R_{BE}=1.0 \text{ k ohm}$	-	-	1.0	mAdc
		$V_{CB}=80 \text{ V}$, $R_{BE}=1.0 \text{ k ohm}$	-	-		
		$V_{CB}=60 \text{ V}$, $R_{BE}=1.0 \text{ k ohm}$, $T_C=150^\circ\text{C}$	-	-	5.0	
		$V_{CB}=80 \text{ V}$, $R_{BE}=1.0 \text{ k ohm}$, $T_C=150^\circ\text{C}$	-	-		
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	$I_C=5.0 \text{ A}$, $I_B=20 \text{ mAdc}$	-	-	2.0	Vdc
		$I_C=10 \text{ A}$, $I_B=50 \text{ mAdc}$	-	-	4.0	
V_{BE}	Base-Emitter Voltage (*)	$I_C=5.0 \text{ Adc}$, $V_{CE}=3.0 \text{ Vdc}$	-	-	3	V



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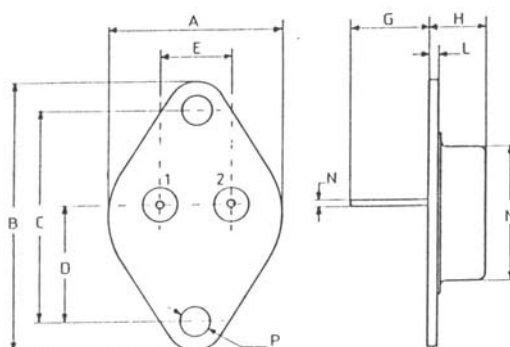
h_{FE}	DC Current Gain (*)	$V_{CE}=3.0\text{ Vdc}$, $I_C=5.0\text{ Adc}$	MJ2500 MJ3000 MJ2501 MJ3001	1000	-	-	-
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(*) Pulse Width $\approx 300\text{ }\mu\text{s}$, Duty Cycle $\angle 2.0\%$

!!! For PNP types current and voltage values are negative !!!

MECHANICAL DATA CASE TO-3

DIMENSIONS		
	mm	inches
A	25,51	1,004
B	38,93	1,53
C	30,12	1,18
D	17,25	0,68
E	10,89	0,43
G	11,62	0,46
H	8,54	0,34
L	1,55	0,6
M	19,47	0,77
N	1	0,04
P	4,06	0,16



Pin 1 :	Base
Pin 2 :	Emitter
Case :	Collector