

PNP MJ2500 – MJ2501

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

Compliance to RoHS

ABSOLUTE MAXIMUM RATINGS

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

THERMAL CHARACTERISTICS

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

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ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

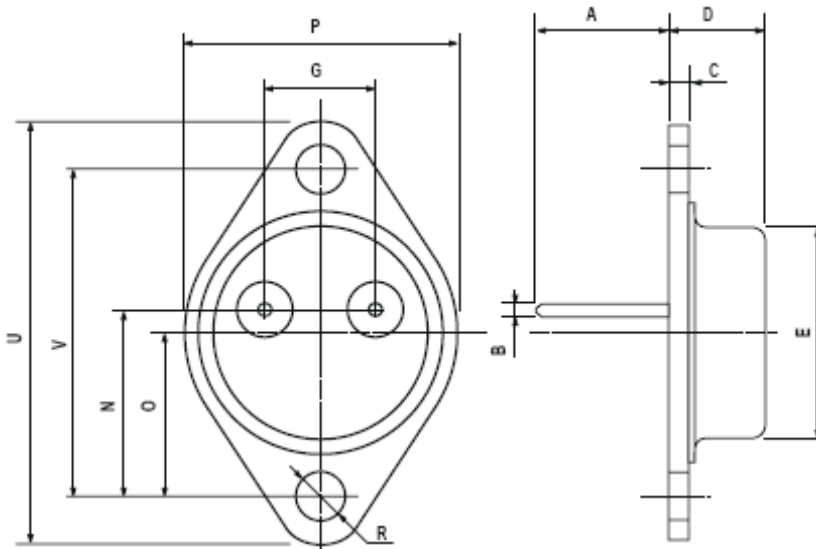
Symbol	Ratings	Test Condition(s)		Min	Typ	Max	Unit
BV_{CEO}	Collector-Emitter Breakdown Voltage (*)	$I_C=-100\text{mA}$ $I_B=0$	MJ2500	-60	-	-	V
			MJ2501	-80	-	-	
I_{CEO}	Collector Cutoff Current	$V_{CE}=-30\text{ V}$ $I_B=0$	MJ2500	-	-	-1.0	mA
		$V_{CE}=-40\text{ V}$ $I_B=0$	MJ2501	-	-		
I_{EBO}	Emitter Cutoff Current	$V_{BE}=-5.0\text{ V}$ $I_C=0$	MJ2500	-	-	-2.0	mA
			MJ2501				
I_{CER}	Collector-Emitter Leakage Current	$V_{CB}=-60\text{ V}$ $R_{BE}=1.0\text{ k}\Omega$	MJ2500	-	-	-1.0	mA
		$V_{CB}=-80\text{ V}$ $R_{BE}=1.0\text{ k}\Omega$	MJ2501	-	-		
		$V_{CB}=-60\text{ V}$ $R_{BE}=1.0\text{ k}\Omega$ $T_C=150^{\circ}\text{C}$	MJ2500	-	-	-5.0	
		$V_{CB}=-80\text{ V}$ $R_{BE}=1.0\text{ k}\Omega$ $T_C=150^{\circ}\text{C}$	MJ2501	-	-		
V_{CE(SAT)}	Collector-Emitter saturation Voltage (*)	$I_C=-5.0\text{ A}$ $I_B=-20\text{ mA}$	MJ2500	-	-	-2.0	V
			MJ2501				
		$I_C=-10\text{ A}$ $I_B=-50\text{ mA}$	MJ2500	-	-	-4.0	
			MJ2501				
V_{BE}	Base-Emitter Voltage (*)	$I_C=-5.0\text{ A}$ $V_{CE}=-3.0\text{V}$	MJ2500	-	-	-3	V
			MJ2501				
h_{FE}	DC Current Gain (*)	$V_{CE}=-3.0\text{ V}$ $I_C=-5.0\text{ A}$	MJ2500	1000	-	-	-
			MJ2501				

(*) Pulse Width $\approx 300\text{ }\mu\text{s}$, Duty Cycle $\angle 2.0\%$

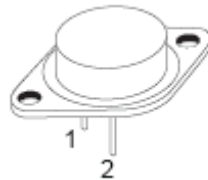
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MECHANICAL DATA CASE TO-3

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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