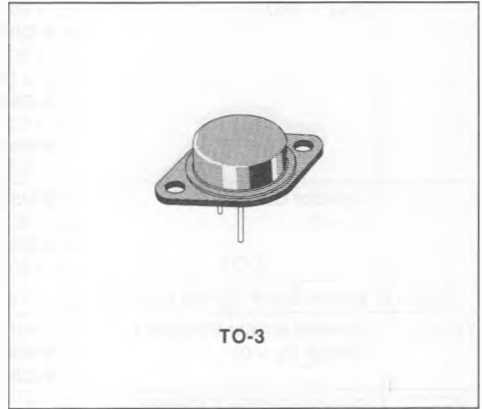


COMPLEMENTARY POWER DARLINGTONS

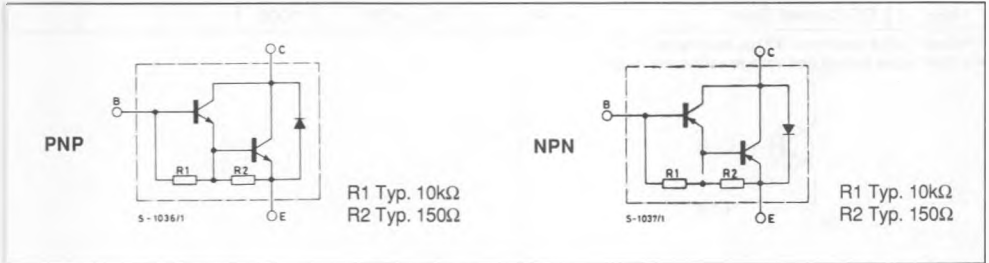
DESCRIPTION

The MJ2500, MJ2501, MJ3000 and MJ3001 are silicon epitaxial-base 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 PNP types are the MJ2500 and MJ2501 and their complementary NPN types are the MJ3000 and MJ3001 respectively.



INTERNAL SCHEMATIC DIAGRAMS



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	PNP NPN	Value		Unit
			MJ2500 MJ3000	MJ2501 MJ3001	
V_{CBO}	Collector-base Voltage ($I_E = 0$)		60	80	V
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)		60	80	V
V_{EBO}	Emitter-base Voltage ($I_C = 0$)		5		V
I_C	Collector Current		10		A
I_B	Base Current		0.2		A
P_{tot}	Total Power Dissipation at $T_{case} \leq 25^\circ C$		150		W
T_{sig}	Storage Temperature		- 65 to 200		$^\circ C$
T_j	Junction Temperature		200		$^\circ C$

For PNP types voltage and current values are negative.

THERMAL DATA

$R_{th\ j-case}$	Thermal Resistance Junction-case	Max	1.17	°C/W
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ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CER}	Collector Cutoff Current ($R_{BE} = 1K\Omega$)	for MJ2500 and MJ3000 $V_{CE} = 60\ V$			1	mA
		for MJ2501 and MJ3001 $V_{CE} = 80\ V$			1	mA
		for MJ2500 and MJ3000 $V_{CE} = 60\ V$			5	mA
		for MJ2501 and MJ3001 $V_{CE} = 80\ V$			5	mA
I_{CEO}	Collector Cutoff Current ($I_B = 0$)	for MJ2500 and MJ3000 $V_{CE} = 30\ V$			1	mA
		for MJ2501 and MJ3001 $V_{CE} = 40\ V$			1	mA
I_{EBO}	Emitter Cutoff Current ($I_C = 0$)	$V_{EB} = 5V$			2	mA
$V_{CEO(sus)}^*$	Collector-emitter Sustaining Voltage ($I_B = 0$)	$I_C = 100mA$ for MJ2500 and MJ3000 for MJ2501 and MJ3001	60 80			V V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = 5A$ $I_B = 20mA$			2	V
		$I_C = 10A$ $I_B = 50mA$			4	V
V_{BE}^*	Base-emitter Voltage	$I_C = 5A$ $V_{CE} = 3V$			3	V
h_{FE}^*	DC Current Gain	$I_C = 5A$ $V_{CE} = 3V$	1000			

* Pulsed : pulse duration = 300 μ s, duty cycle = 1.5%.

For PNP types current and voltage values are negative.