

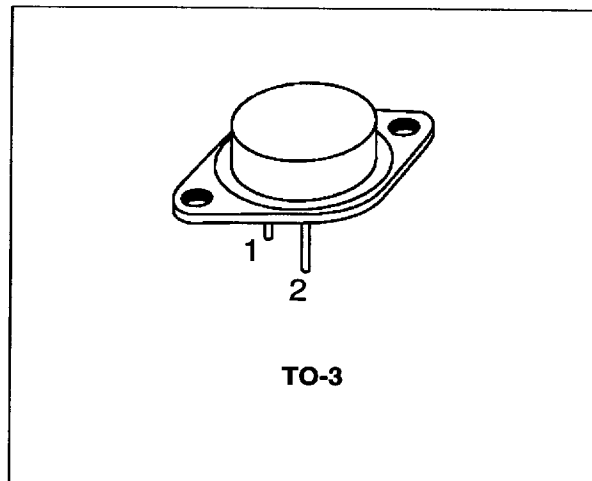
COMPLEMENTARY SILICON POWER DARLINGTON TRANSISTORS

- MJ2501 AND MJ3001 ARE SGS-THOMSON PREFERRED SALESTYPES

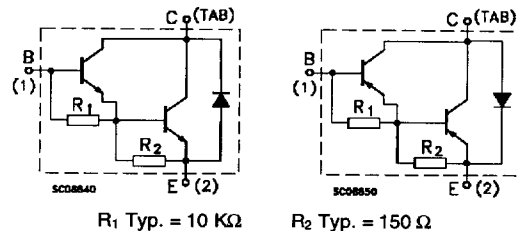
DESCRIPTION

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.



INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit	
		PNP	MJ2500		MJ2501
		NPN	MJ3000	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 Dissipation at $T_c \leq 25^\circ C$		150		W
T_{stg}	Storage Temperature		-65 to 200		$^\circ C$
T_j	Max. Operating Junction Temperature		200		$^\circ C$

For PNP types voltage and current values are negative.

MJ2500/MJ2501/MJ3000/MJ3001

THERMAL DATA

R _{thj-case}	Thermal Resistance Junction-case	Max	1.17	°C/W
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ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CER}	Collector Cut-off Current (R _{BE} = 1 KΩ)	for MJ2500 and MJ3000 V _{CE} = 60 V			1	mA
		for MJ2501 and MJ3001 V _{CE} = 80 V			1	mA
		T _{case} = 150 °C for MJ2500 and MJ3000 V _{CE} = 60 V			5	mA
		for MJ2501 and MJ3001 V _{CE} = 80 V			5	mA
I _{CEO}	Collector Cut-off 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 Cut-off Current (I _C = 0)	V _{EB} = 5 V			2	mA
V _{CEO(sus)*}	Collector-Emitter Sustaining Voltage (I _B = 0)	I _C = 100 mA	60			V
		for MJ2500 and MJ3000 for MJ2501 and MJ3001	80			V
V _{CE(sat)*}	Collector-emitter Saturation Voltage	I _C = 5 A I _B = 20 mA			2	V
		I _C = 10 A I _B = 50 mA			4	V
V _{BE*}	Base-emitter Voltage	I _C = 5 A V _{CE} = 3 V			3	V
h _{FE*}	DC Current Gain	I _C = 5 A V _{CE} = 3 V	1000			

* Pulsed: Pulse duration = 300 μs, duty cycle 1.5 %

For PNP types voltage and current values are negative.

TO-3 (H) MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A		11.7			0.460	
B	0.96		1.10	0.037		0.043
C			1.70			0.066
D			8.7			0.342
E			20.0			0.787
G		10.9			0.429	
N		16.9			0.665	
P			26.2			1.031
R	3.88		4.09	0.152		0.161
U			39.50			1.555
V		30.10			1.185	

