

FEATURES

- Available as “HR” (high reliability) screened per MIL-PRF-19500, JANTX level. Add “HR” suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding “-PBF” suffix.

MAXIMUM RATINGS

Rating	Symbol	MJ900 MJ1000	MJ901 MJ1001	Unit
Collector emitter voltage	V_{CEO}	60	80	V
Collector emitter voltage	V_{CBO}	60	80	V
Emitter base voltage	V_{EBO}	5.0		V
Collector current-Continuous	I_C	10		A
Base current	I_B	0.1		A
Total power dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	90	0.515	W W/ $^\circ\text{C}$
Operating and storage temperature range	T_J, T_{stg}	-55 to +200		$^\circ\text{C}$
Thermal resistance, junction to case	$R_{\theta JC}$	1.94		$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector emitter breakdown voltage ⁽¹⁾ ($I_C = 100\text{mA}, I_B = 0$)	MJ900, MJ1000 MJ901, MJ1001	$V_{(BR)CEO}$	60 80	- - V
Collector emitter leakage current ($V_{CE} = 60\text{V}, R_{BE} = 1\text{k}\Omega$) ($V_{CE} = 80\text{V}, R_{BE} = 1\text{k}\Omega$) ($V_{CE} = 60\text{V}, R_{BE} = 1\text{k}\Omega, T_C = 150^\circ\text{C}$) ($V_{CE} = 80\text{V}, R_{BE} = 1\text{k}\Omega, T_C = 150^\circ\text{C}$)	MJ900, MJ1000 MJ901, MJ1001 MJ900, MJ1000 MJ901, MJ1001	I_{CER}	- - - -	1.0 1.0 5.0 5.0 mA
Emitter cutoff current ($V_{EB} = 5.0\text{V}, I_C = 0$)		I_{EBO}	-	2.0 mA
Collector emitter leakage cutoff current ($V_{CE} = 30\text{V}, I_B = 0$) ($V_{CE} = 40\text{V}, I_B = 0$)	MJ900, MJ1000 MJ901, MJ1001	I_{CEO}	- -	500 500 μA
ON CHARACTERISTICS ⁽¹⁾				
DC current gain ($I_C = 3\text{A}, V_{CE} = 3.0\text{V}$) ($I_C = 4\text{A}, V_{CE} = 3.0\text{V}$)		h_{FE}	1000 750	- - -
Collector emitter saturation voltage ($I_C = 30\text{A}, I_B = 12\text{mA}$) ($I_C = 8.0\text{A}, I_B = 40\text{mA}$)		$V_{CE(sat)}$	- -	2.0 4.0 V
Base-emitter voltage ($I_C = 3.0\text{A}, V_{CE} = 3.0\text{V}$)		$V_{BE(on)}$	-	2.5 V
Diode forward voltage ($I_F = 20\text{A}$)		V_f	-	5.0 V

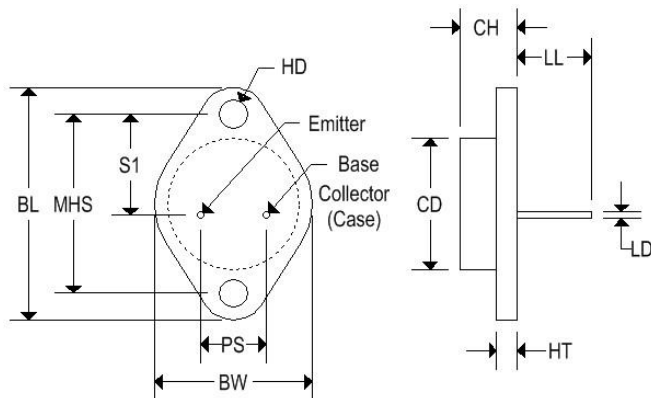
Note 1: Pulse test: pulse width = 5ms, duty cycle $\leq 2\%$.

MJ900-MJ901-PNP MJ1000-MJ1001 – NPN

SILICON POWER DARLINGTON TRANSISTORS

MECHANICAL CHARACTERISTICS

Case	TO-3
Marking	Alpha-numeric
Polarity	See below



	TO-3			
	Inches		Millimeters	
	Min	Max	Min	Max
CD	-	0.875	-	22.220
CH	0.250	0.380	6.860	9.650
HT	0.060	0.135	1.520	3.430
BW	-	1.050	-	26.670
HD	0.131	0.188	3.330	4.780
LD	0.038	0.043	0.970	1.090
LL	0.312	0.500	7.920	12.700
BL	1.550 REF		39.370 REF	
MHS	1.177	1.197	29.900	30.400
PS	0.420	0.440	10.670	11.180
S1	0.655	0.675	16.640	17.150

