Silicon PNP Darlington Transistor

MJ900

Power Linear and Switching

60V / 8A

DATASHEET

from

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OEM –SGS Ates

Source: SGS Ates Databook 1977

Datasheet Rev. 1.0 – 06/19 – data without warranty / liability

MJ 900
MJ 901
MJ 1000
MJ 1001

EPITAXIAL-BASE NPN/PNP

COMPLEMENTARY POWER DARLINGTONS

The MJ 900, MJ 901, MJ 1000 and MJ 1001 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 MJ 900 and MJ 901 and their complementary NPN types are the MJ 1000 and MJ 1001 respectively.

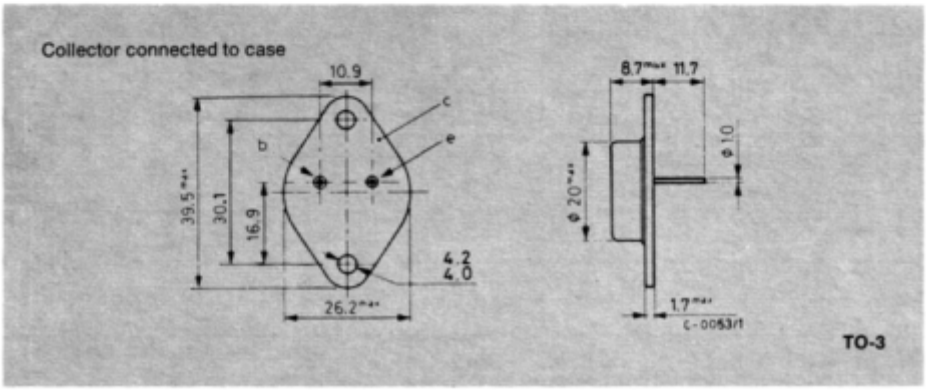
ABSOLUTE MAXIMUM RATINGS

		PNP°	MJ 900	MJ 901
		NPN	MJ1000	MJ1001
V_{CBO}	Collector-base voltage ($I_E = 0$)		60V	80V
V_{CEO}	Collector-emitter voltage ($I_B = 0$)		60V	80V
V_{EBO}	Emitter-base voltage ($I_C = 0$)		5V	
I_C	Collector current		8A	
I_B	Base current		0.1A	
P_{tot}	Total power dissipation at $T_{case} \leq 25$ °C		90W	
T_{stg}	Storage temperature		-65 to 200 °C	
T_j	Junction temperature		200 °C	

° For PNP types voltage and current values are negative

MECHANICAL DATA

Dimensions in mm



MJ 900
MJ 901
MJ 1000
MJ 1001

THERMAL DATA

$R_{th\ j\text{-}case}$	Thermal resistance junction-case	max	1.94	°C/W

ELECTRICAL CHARACTERISTICS ° (T_{case} = 25°C unless otherwise specified)

	Parameter	Test conditions	Min.	Typ.	Max.	Unit
I_{CER}	Collector cutoff current (R_{BE} = 1kΩ)	for **MJ900** and **MJ1000** V_{CE} = 60 V			1	mA
		for **MJ901** and **MJ1001** V_{CE} = 80 V			1	mA
		T_{case} = 150°C for **MJ900** and **MJ1000** V_{CE} = 60 V			5	mA
		for **MJ901** and **MJ1001** V_{CE} = 80 V			5	mA
I_{CEO}	Collector cutoff current (I_B = 0)	for **MJ900** and **MJ1000** V_{CE} = 30 V			0.5	mA
		for **MJ901** and **MJ1001** V_{CE} = 40 V			0.5	mA
I_{EBO}	Emitter cutoff current (I_C = 0)	V_{EB} = 5 V			2	mA
$V_{CEO\ (sus)}$*	Collector-emitter sustaining voltage (I_B = 0)	I_C = 100mA for **MJ900** and **MJ1000**	60			V
		for **MJ901** and **MJ1001**	80			V
$V_{CE\ (sat)}$*	Collector-emitter saturation voltage	I_C = 3 A I_B = 12mA			2	V
		I_C = 8 A I_B = 40mA			4	V
V_{BE}*	Base-emitter voltage	I_C = 3 A V_{CE} = 3 V			2.5	V
h_{FE}*	DC current gain	I_C = 3 A V_{CE} = 3 V	1000			—
		I_C = 4 A V_{CE} = 3 V	750			—

* Pulsed: pulse duration = 300 μs, duty cycle = 1.5%
° For PNP types current and voltage values are negative
For characteristic curves see the 2N 6053/55 series