

Silicon NPN Darlington Transistor

MJ1001

Power Linear and Switching

80V / 8A

DATASHEET

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OEM –SGS Ates

Source: SGS Ates Databook 1977



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.

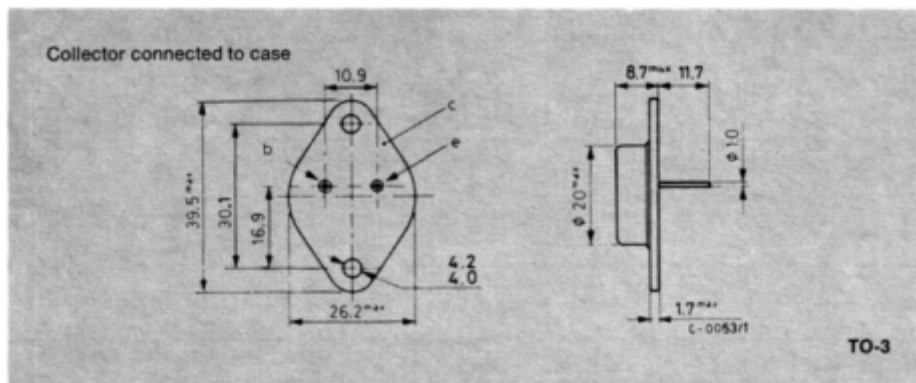
ABSOLUTE MAXIMUM RATINGS

	PNP*	MJ 900	MJ 901
		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 $T_{case} \leq 25^\circ C$			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

$R_{th\ j-case}$	Thermal resistance junction-case	max	1.94	°C/W
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ELECTRICAL CHARACTERISTICS ° ($T_{case} = 25^{\circ}C$ unless otherwise specified)

Parameter	Test conditions	Min.	Typ.	Max.	Unit
I_{CER} Collector cutoff current ($R_{BE} = 1k\Omega$)	for MJ900 and MJ1000 $V_{CE} = 60\ V$			1	mA
	for MJ901 and MJ1001 $V_{CE} = 80\ V$			1	mA
	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 for MJ901 and MJ1001	60			V
		80			V
$V_{CE(sat)}$ * Collector-emitter saturation voltage	$I_C = 3\ A$ $I_B = 12mA$ $I_C = 8\ A$ $I_B = 40mA$			2	V
				4	V
V_{BE} * Base-emitter voltage	$I_C = 3\ A$ $V_{CE} = 3\ V$			2.5	V
h_{FE} * DC current gain	$I_C = 3\ A$ $V_{CE} = 3\ V$ $I_C = 4\ A$ $V_{CE} = 3\ V$	1000			—
		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