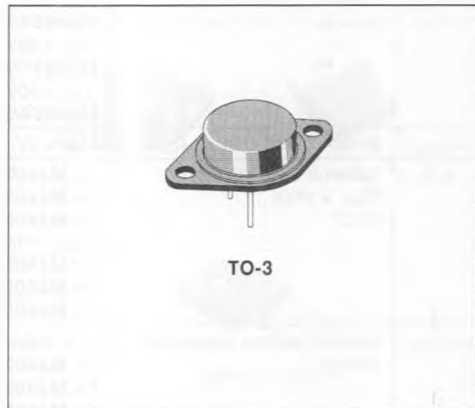
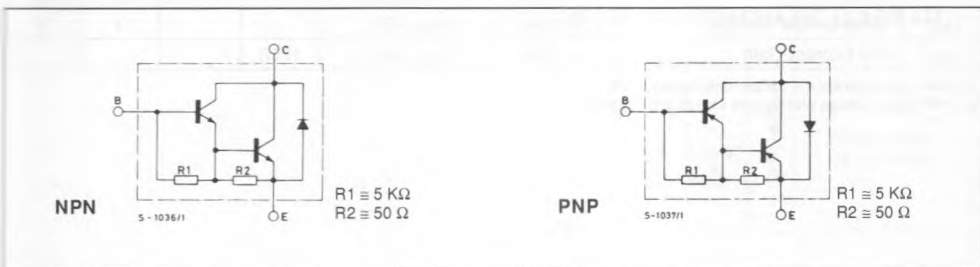


GENERAL PURPOSE
DESCRIPTION

The MJ4030/31/32/33/34/35 are medium-power silicon NPN Darlington in Jedec TO-3 metal case, intended for use in general purpose and amplifier applications.

The complementary PNP types are the MJ4033/34/35 respectively.


INTERNAL SCHEMATIC DIAGRAMS

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	PNP* NPN	Value			Unit
			MJ4030 MJ4033	MJ4031 MJ4034	MJ4032 MJ4035	
V_{CBO}	Collector-base Voltage ($I_E = 0$)		60	80	100	V
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)		60	80	100	V
V_{EBO}	Emitter-base Voltage ($I_C = 0$)		5			V
I_C	Collector Current		16			A
I_B	Base Current		0.5			A
P_{T01}	Total Power Dissipation at $T_{case} \leq 25^\circ\text{C}$		150			W
T_{stg}	Storage Temperature		- 65 to 200			$^\circ\text{C}$
T_J	Junction Temperature		200			$^\circ\text{C}$

* 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_{CEO}	Collector Cutoff Current ($I_B = 0$)	$V_{CE} = 30V$ $I_B = 0$ MJ4030/33 $V_{CE} = 40V$ $I_B = 0$ MJ4031/34 $V_{CE} = 50V$ $I_B = 0$ MJ4032/35			3	mA
I_{EBO}	Emitter Cutoff Current ($I_C = 0$)	$V_{EB} = 5V$ $I_C = 0$			5	mA
I_{CER}	Collector Cutoff Current ($R_{BE} = 1K\Omega$)	for MJ4030/33 $V_{CB} = 60V$ for MJ4031/34 $V_{CB} = 80V$ for MJ4032/35 $V_{CB} = 100V$ $T_{case} = 150^{\circ}C$ for MJ4030/33 $V_{CB} = 60V$ for MJ4031/34 $V_{CB} = 80V$ for MJ4032/35 $V_{CB} = 100V$			1 1 1 5 5 5	mA mA mA mA mA mA
V_{BRCEO}^*	Collector-emitter Breakdown Voltage	$I_C = 100mA$ $I_B = 0$ for MJ4030/33 for MJ4031/34 for MJ4032/35	60 80 100			V V V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = 10A$ $I_B = 40mA$ $I_C = 16A$ $I_B = 80mA$			2.5 4	V V
V_{BE}^*	Base-emitter Voltage	$I_C = 10A$ $V_{CE} = 3V$			3	V
h_{FE}^*	DC Current Gain	$I_C = 10A$ $V_{CE} = 3V$	1000			

* Pulsed : pulse duration = 300 μ s, duty cycles < 2%.
For PNP types voltage and current values are negative.