

New Jersey Semi-Conductor Products, Inc.

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MEDIUM-POWER COMPLEMENTARY SILICON TRANSISTORS

...designed for use as output devices in complementary general purpose amplifier applications.

FEATURES:

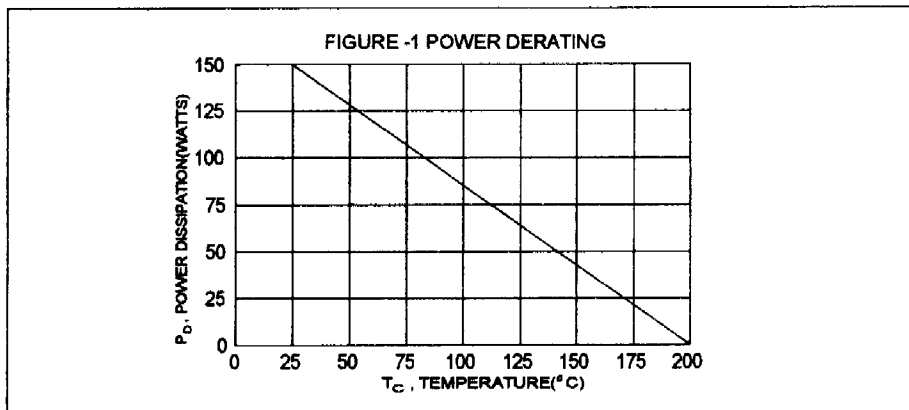
- * High Gain Darlington Performance
- * DC Current Gain $h_{FE} = 3500(\text{Typ}) @ I_C = 10 \text{ A}$
- * Monolithic Construction with Built-in Base-Emitter Shunt Resistor

MAXIMUM RATINGS

Characteristic	Symbol	MJ4030 MJ4033	MJ4031 MJ4034	MJ4032 MJ4035	Unit
Collector-Emitter Voltage	V_{CEO}	60	80	100	V
Collector-Base Voltage	V_{CBO}	60	80	100	V
Emitter-Base Voltage	V_{EBO}	5.0			V
Collector Current-Continuous -Peak	I_C I_{CM}	16 20			A
Base Current	I_B	0.5			A
Total Power Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	150 0.857			W W/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{STG}	- 65 to +200			$^\circ\text{C}$

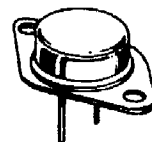
THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	$R_{\theta jc}$	1.17	$^\circ\text{C}/\text{W}$

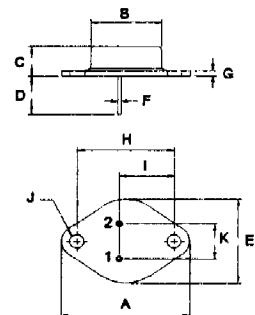


PNP	NPN
MJ4030	MJ4033
MJ4031	MJ4034
MJ4032	MJ4035

16 AMPERE
COMPLEMENTARY
SILICON POWER
DARLINGTON TRANSISTOR
60-100 VOLTS
150 WATTS

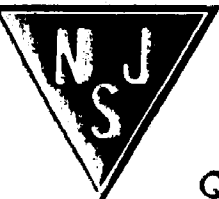


TO-3



PIN 1. BASE
2. EMITTER
COLLECTOR(CASE)

DIM	MILLIMETERS	
	MIN	MAX
A	38.75	39.96
B	19.28	22.23
C	7.96	9.28
D	11.18	12.19
E	25.20	26.67
F	0.92	1.09
G	1.38	1.62
H	29.90	30.40
I	16.64	17.30
J	3.88	4.36
K	10.67	11.18



NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

Quality Semi-Conductors

MJ4030, MJ4031, MJ4032 PNP / MJ4033, MJ4034, MJ4035 NPN

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

Characteristic	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

Collector - Emitter Sustaining Voltage (1) ($I_C = 100\text{ mA}$, $I_B = 0$) MJ4030, MJ4033 MJ4031, MJ4034 MJ4032, MJ4035	$V_{CE(sus)}$	60 80 100		V
Collector Cutoff Current ($V_{CE} = 30\text{ V}$, $I_B = 0$) ($V_{CE} = 40\text{ V}$, $I_B = 0$) ($V_{CE} = 50\text{ V}$, $I_B = 0$) MJ4030, MJ4033 MJ4031, MJ4034 MJ4032, MJ4035	I_{CEO}		3.0 3.0 3.0	mA
Collector-Emitter Leakage Current ($V_{CE} = 60\text{ V}$, $R_{EE} = 1.0\text{ k ohm}$) ($V_{CE} = 80\text{ V}$, $R_{EE} = 1.0\text{ k ohm}$) ($V_{CE} = 100\text{ V}$, $R_{EE} = 1.0\text{ k ohm}$) ($V_{CE} = 60\text{ V}$, $R_{EE} = 1.0\text{ k ohm}$, $T_c = 150^\circ\text{C}$) ($V_{CE} = 80\text{ V}$, $R_{EE} = 1.0\text{ k ohm}$, $T_c = 150^\circ\text{C}$) ($V_{CE} = 100\text{ V}$, $R_{EE} = 1.0\text{ k ohm}$, $T_c = 150^\circ\text{C}$) MJ4030, MJ4033 MJ4031, MJ4034 MJ4032, MJ4035 MJ4030, MJ4033 MJ4031, MJ4034 MJ4032, MJ4035	I_{CER}		1.0 1.0 1.0 5.0 5.0 5.0	mA
Emitter Cutoff Current ($V_{EB} = 5.0\text{ V}$, $I_C = 0$)	I_{EBO}		5.0	mA

ON CHARACTERISTICS (1)

DC Current Gain ($I_C = 10\text{ A}$, $V_{CE} = 3.0\text{ V}$)	hFE	1000		
Collector-Emitter Saturation Voltage ($I_C = 10\text{ A}$, $I_B = 40\text{ mA}$) ($I_C = 16\text{ A}$, $I_B = 80\text{ mA}$)	$V_{CE(sat)}$		2.5 4.0	V
Base-Emitter On Voltage ($I_C = 10\text{ A}$, $V_{CE} = 3.0\text{ V}$)	$V_{BE(on)}$		3.0	V

(1) Pulse Test: Pulse width = 300 us , Duty Cycle $\leq 2.0\%$