



MJ4030 – MJ4031 – MJ4032 PNP
MJ4033 – MJ4034 – MJ4035 NPN

DARLINGTON MEDIUM POWER COMPLEMENTARY SILICON TRANSISTORS

For use as output devices in complementary general purpose amplifier applications.

- High DC current Gain – $h_{FE}=3500$ (Typ) @ $I_C=10$ Adc
- Monolithic Construction with Built-in Base Emitter Shunt Resistor

The complementary PNP types are the MJ4033/34/35

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings		Value	Unit	
V_{CBO}	Collector-Base Voltage	$I_E=0$	MJ4030 MJ4033	60	V
			MJ4031 MJ4034	80	
			MJ4032 MJ4035	100	
V_{CEO}	Collector-Emitter Voltage	$I_B=0$	MJ4030 MJ4033	60	V
			MJ4031 MJ4034	80	
			MJ4032 MJ4035	100	
V_{EBO}	Emitter-Base Voltage	$I_C=0$	MJ4030 MJ4033 MJ4031 MJ4034 MJ4032 MJ4035	5.0	V

MJ4030 – MJ4031 – MJ4032 PNP
MJ4033 – MJ4034 – MJ4035 NPN

I_C	Collector Current		MJ4030 MJ4033 MJ4031 MJ4034 MJ4032 MJ4035	16	A
I_B	Base Current		MJ4030 MJ4033 MJ4031 MJ4034 MJ4032 MJ4035	0.5	A
P_T	Power Dissipation	@ T _C < 25°	MJ4030 MJ4033 MJ4031 MJ4034 MJ4032 MJ4035	150	Watts
T_J T_s	Junction Storage Temperature		MJ4030 MJ4033 MJ4031 MJ4034 MJ4032 MJ4035	200 -65 to +200	°C

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJ-C}	Thermal Resistance, Junction to Case	1.17	°C/W

MJ4030 – MJ4031 – MJ4032 PNP MJ4033 – MJ4034 – MJ4035 NPN

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit	
V_{CEO}	Collector-Emitter Voltage (*)	$I_C=100 \text{ mAdc}, I_B=0$	MJ4030 MJ4033	60	-	-	V
			MJ4031 MJ4034	80	-	-	
			MJ4032 MJ4035	100	-	-	
I_{CEO}	Collector Cutoff Current	$V_{CE}=30 \text{ Vdc}, I_B=0$	MJ4030 MJ4033	-	-	3.0	mA
		$V_{CE}=40 \text{ Vdc}, I_B=0$	MJ4031 MJ4034	-	-		
		$V_{CE}=50 \text{ Vdc}, I_B=0$	MJ4032 MJ4035	-	-		
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage (*)	$I_B=0 \text{ Vdc}, I_C=100$	MJ4030 MJ4033	60	-	-	V
			MJ4031 MJ4034	80	-	-	
			MJ4032 MJ4035	100	-	-	
I_{EBO}	Emitter Cutoff Current	$V_{BE}=5.0 \text{ V}, I_C=0$	MJ4030 MJ4033 MJ4031 MJ4034 MJ4032 MJ4035	-	-	5.0	mA

MJ4030 – MJ4031 – MJ4032 PNP
MJ4033 – MJ4034 – MJ4035 NPN

I_{CER}	Collector-Emitter Leakage Current	V _{CB} =60 V, R _{BE} =1.0 k ohm	MJ4030 MJ4033	-	-	1.0	mAdc
		V _{CB} =80 V, R _{BE} =1.0 k ohm	MJ4031 MJ4034	-	-		
		V _{CB} =100 V, R _{BE} =1.0 k ohm	MJ4032 MJ4035				
		V _{CB} =60 V, R _{BE} =1.0 k ohm, T _C =150°C	MJ4030 MJ4033	-	-	5.0	
		V _{CB} =80 V, R _{BE} =1.0 k ohm, T _C =150°C	MJ4031 MJ4034	-	-		
		V _{CB} =100 V, R _{BE} =1.0 k ohm, T _C =150°C	MJ4032 MJ4035				
V_{CE(SAT)}	Collector-Emitter saturation Voltage (*)	I _C =10 A, I _B =40 mAdc	MJ4030 MJ4033 MJ4031 MJ4034 MJ4032 MJ4035	-	-	2.5	Vdc
		I _C =16 A, I _B =80 mAdc	MJ4030 MJ4033 MJ4031 MJ4034 MJ4032 MJ4035	-	-	4.0	
V_{BE}	Base-Emitter Voltage (*)	I _C =10 Adc, V _{CE} =3.0Vdc	MJ4030 MJ4033 MJ4031 MJ4034 MJ4032 MJ4035	-	-	3	V
h_{fe}	DC Current Gain (*)	V _{CE} =10 Vdc, I _C =3.0 Adc	MJ4030 MJ4033 MJ4031 MJ4034 MJ4032 MJ4035	1000	-	-	-

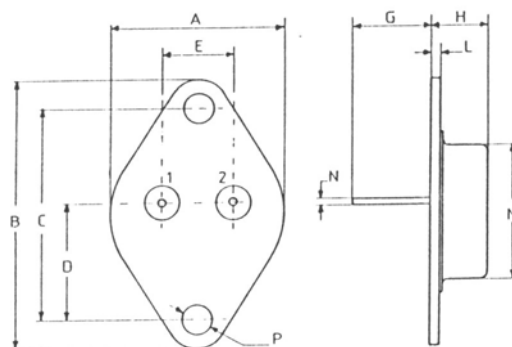
!!! For PNP types current and voltage values are negative !!!

(*) Pulse Width ≈ 300 μs, Duty Cycle < 2.0%

MJ4030 – MJ4031 – MJ4032 PNP
MJ4033 – MJ4034 – MJ4035 NPN

MECHANICAL DATA CASE TO-3

DIMENSIONS		
	mm	inches
A	25,51	1,004
B	38,93	1,53
C	30,12	1,18
D	17,25	0,68
E	10,89	0,43
G	11,62	0,46
H	8,54	0,34
L	1,55	0,6
M	19,47	0,77
N	1	0,04
P	4,06	0,16



Pin 1 :	Base
Pin 2 :	Emitter
Case :	Collector