MJ900 – MJ901 PNP
MJ1000 – MJ1001 NPN

COMPLEMENTARY POWER DARLINGTONS

The MJ900, MJ901, MJ1000 and MJ1001 are silicon epitaxial-bas 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.
PNP types are the MJ900 and MJ901, and their complementary NPN types are the MJ1000 and MJ1001 respectively.

ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings			Value	Unit
V_{CBO}	Collector-Base Voltage		**MJ900 MJ1000**	60	Vdc
			MJ901 MJ1001	80	
V_{CEO}	Collector-EmitterVoltage	I_B=0	**MJ900 MJ1000**	60	Vdc
			MJ901 MJ1001	80	
V_{EBO}	Emitter-Base Voltage		**MJ900 MJ1000**	5.0	Vdc
			MJ901 MJ1001		
I_C	Collector Current	$I_{C(RMS)}$	**MJ900 MJ1000**	8.0	Adc
			MJ901 MJ1001		

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Symbol	Ratings			Value	Unit
I_B	Base Current		**MJ900 MJ1000**	0.1	Adc
			MJ901 MJ1001		
P_T	Power Dissipation	@ T_C < 25°	**MJ900 MJ1000**	90	Watts
		Derate above 25°C	**MJ901 MJ1001**	0.515	W/°C
T_J	Junction Temperature		**MJ900 MJ1000**	-65 to +200	°C
			MJ901 MJ1001		
T_S	Storage Temperature		**MJ900 MJ1000**		
			MJ901 MJ1001		

THERMAL CHARACTERISTICS

Symbol	Ratings		Value	Unit
R_{thJ-C}	Thermal Resistance, Junction to Case	**MJ900 MJ1000**	1.94	°C/W
		MJ901 MJ1001		

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)		Min	Typ	Mx	Unit
V_{CEO}	Collector-Emitter Breakdown Voltage (*)	I_C=100 mAdc, I_B=0	**MJ900 MJ1000**	60	-	-	Vdc
			MJ901 MJ1001	80	-	-	
I_{CEO}	Collector Cutoff Current	V_{CE}=30 Vdc, I_B=0	**MJ900 MJ1000**	-	-	500	μAdc
		V_{CE}=40 Vdc, I_B=0	**MJ901 MJ1001**	-	-		

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Symbol	Ratings	Test Condition(s)		Min	Typ	Mx	Unit
I_{EBO}	Emitter Cutoff Current	V_{BE}=5.0 Vdc, I_C=0	**MJ900 MJ1000**	-	-	2.0	mAdc
			MJ901 MJ1001				
I_{CER}	Collector-Emitter Leakage Current	V_{CB}=60 V, R_{BE}=1.0 k ohm	**MJ900 MJ1000**	-	-	1.0	mAdc
		V_{CB}=80 V, R_{BE}=1.0 k ohm	**MJ901 MJ1001**	-	-		
		V_{CB}=60 V, R_{BE}=1.0 k ohm, T_C=150°C	**MJ900 MJ1000**	-	-	5.0	
		V_{CB}=80 V, R_{BE}=1.0 k ohm, T_C=150°C	**MJ901 MJ1001**	-	-		
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	I_C=3.0 A, I_B=12 mAdc	**MJ900 MJ1000**	-	-	2.0	Vdc
			MJ901 MJ1001				
		I_C=8.0 A, I_B=40 mAdc	**MJ900 MJ1000 MJ901 MJ1001**	-	-	4.0	

Symbol	Ratings	Test Condition(s)		Min	Typ	Mx	Unit
V_F	Forward Voltage (pulse method)	I_F=3 A	**MJ900 MJ1000**	-	1.8	-	V
			MJ901 MJ1001				
V_{BE}	Base-Emitter Voltage (*)	I_C=3.0 Adc, V_{CE}=3.0Vdc	**MJ900 MJ1000**	-	-	2.5	V
			MJ901 MJ1001				
H_{FE}	DC Current Gain (*)	V_{CE}=3.0 Vdc, I_C=3.0 Adc	**MJ900 MJ1000**	1000	-	-	-
			MJ901 MJ1001				
		V_{CE}=3.0 Vdc, I_C=4.0 Adc	**MJ900 MJ1000**	750	-	-	
			MJ901 MJ1001				

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

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

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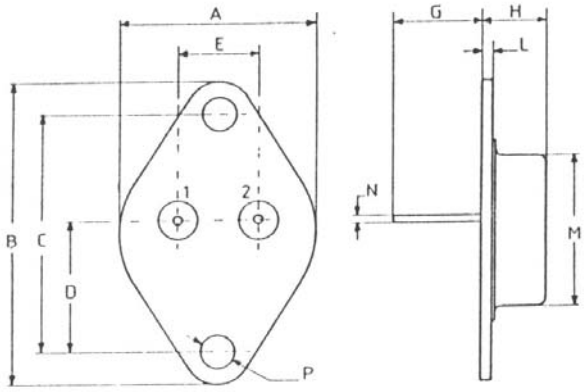
MECHANICAL DATA CASE TO-3

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