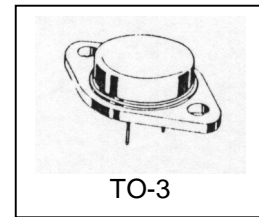


MJ900/901/1000/1001



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}	<i>Collector-Base Voltage</i>		MJ900 MJ1000	60	Vdc
			MJ901 MJ1001	80	
V_{CEO}	<i>Collector-Emitter Voltage</i>	$I_B=0$	MJ900 MJ1000	60	Vdc
			MJ901 MJ1001	80	
V_{EBO}	<i>Emitter-Base Voltage</i>		MJ900 MJ1000 MJ901 MJ1001	5.0	Vdc
I_C	<i>Collector Current</i>	$I_{C(RMS)}$	MJ900 MJ1000 MJ901 MJ1001	8.0	Adc



COMSET

SEMICONDUCTORS

MJ900/901/1000/1001

I_B	Base Current		MJ900 MJ1000 MJ901 MJ1001	0.1	Adc
P_T	Power Dissipation	@ $T_C < 25^\circ$	MJ900 MJ1000 MJ901 MJ1001	90	Watts
		Derate above 25°C		0.515	W/ $^\circ\text{C}$
T_J	Junction Temperature		MJ900 MJ1000 MJ901 MJ1001	-65 to +200	$^\circ\text{C}$
T_S	Storage Temperature				

THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
R_{thJ-C}	Thermal Resistance, Junction to Case	1.94	$^\circ\text{C}/\text{W}$



MJ900/901/1000/1001

ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit	
V_{CEO}	Collector-Emitter Breakdown Voltage (*)	$I_C=100 \text{ mAdc}$, $I_B=0$	MJ900 MJ1000	60	-	-	Vdc
			MJ901 MJ1001	80	-	-	
I_{CEO}	Collector Cutoff Current	$V_{CE}=30 \text{ Vdc}$, $I_B=0$	MJ900 MJ1000	-	-	500	μAdc
		$V_{CE}=40 \text{ Vdc}$, $I_B=0$	MJ901 MJ1001	-	-		
I_{EBO}	Emitter Cutoff Current	$V_{BE}=5.0 \text{ Vdc}$, $I_C=0$	MJ900 MJ1000 MJ901 MJ1001	-	-	2.0	mAdc
I_{CER}	Collector-Emitter Leakage Current	$V_{CB}=60 \text{ V}$, $R_{BE}=1.0 \text{ k ohm}$	MJ900 MJ1000	-	-	1.0	mAdc
		$V_{CB}=80 \text{ V}$, $R_{BE}=1.0 \text{ k ohm}$	MJ901 MJ1001	-	-		
		$V_{CB}=60 \text{ V}$, $R_{BE}=1.0 \text{ k ohm}$, $T_C=150^\circ\text{C}$	MJ900 MJ1000	-	-	5.0	
		$V_{CB}=80 \text{ V}$, $R_{BE}=1.0 \text{ k ohm}$, $T_C=150^\circ\text{C}$	MJ901 MJ1001	-	-		
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage (*)	$I_C=3.0 \text{ A}$, $I_B=12 \text{ mAdc}$	MJ900 MJ1000 MJ901 MJ1001	-	-	2.0	Vdc
		$I_C=8.0 \text{ A}$, $I_B=40 \text{ mAdc}$	MJ900 MJ1000 MJ901 MJ1001	-	-	4.0	
V_F	Forward Voltage (pulse method)	$I_F=3 \text{ A}$	MJ900 MJ1000 MJ901 MJ1001	-	1.8	-	V
V_{BE}	Base-Emitter Voltage (*)	$I_C=3.0 \text{ Adc}$, $V_{CE}=3.0 \text{ Vdc}$	MJ900 MJ1000 MJ901 MJ1001	-	-	2.5	V



MJ900/901/1000/1001

h_{fe}	DC Current Gain (*)	$V_{CE}=3.0\text{ Vdc}, I_C=3.0\text{ Adc}$	MJ900 MJ1000 MJ901 MJ1001	1000	-	-	-
		$V_{CE}=4.0\text{ Vdc}, I_C=3.0\text{ Adc}$	MJ900 MJ1000 MJ901 MJ1001	750	-	-	-

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

(*) Pulse Width $\approx 300\ \mu\text{s}$, Duty Cycle $\angle 2.0\%$

MECHANICAL DATA

DIMENSIONS	
	mm
A	25,51
B	38,93
C	30,12
D	17,25
E	10,89
G	11,62
H	8,54
L	1,55
M	19,47
N	1
P	4,06

