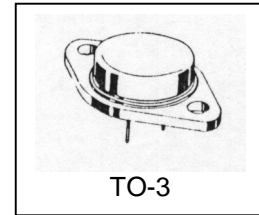


## MJ900/901/1000/1001



## 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



## 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 $25^\circ\text{C}$		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	$\mu\text{Adc}$
		$V_{CE}=40 \text{ Vdc}$ , $I_B=0$	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

