



Micro Commercial Components

Micro Commercial Components  
 20736 Marilla Street Chatsworth  
 CA 91311  
 Phone: (818) 701-4933  
 Fax: (818) 701-4939

# MJD122

## Silicon NPN epitaxial planer Transistors

### Features

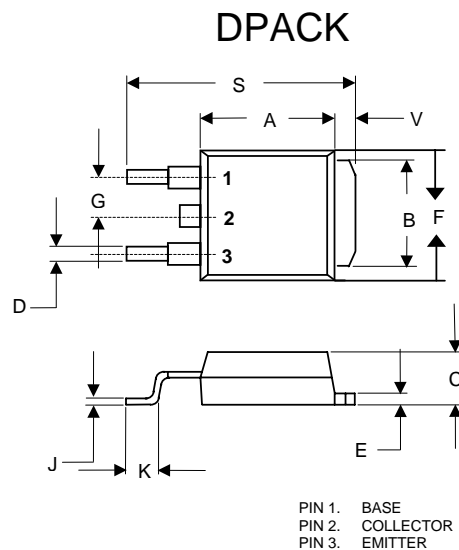
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Case Material:Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1
- High DC Current Gain
- Electrically similar to popular TIP 122
- Built-in a damper diode at E-C
- Maximum Thermal Resistance: 83.3°C/W Junction to Ambient

### Maximum Ratings @ 25°C Unless Otherwise Specified

Symbol	Rating	Rating	Unit
V <sub>CEO</sub>	Collector-Emitter Voltage	100	V
V <sub>CBO</sub>	Collector-Base Voltage	100	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current-Continuous	8	A
P <sub>C</sub>	Collector Dissipation	1.5	W
T <sub>J</sub>	Operating Junction Temperature	150	°C
T <sub>STG</sub>	Storage Temperature	-55 to +150	°C

### Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Typ	Max	Units
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage (I <sub>C</sub> =30mA, I <sub>B</sub> =0)	100	---	---	Vdc
V <sub>(BR)CBO</sub>	Collector-Base Breakdown Voltage (I <sub>C</sub> =1mA, I <sub>E</sub> =0)	100	---	---	Vdc
V <sub>(BR)EBO</sub>	Collector-Emitter Breakdown Voltage (I <sub>E</sub> =3mA, I <sub>C</sub> =0)	5	---	---	Vdc
I <sub>CBO</sub>	Collector Cutoff Current (V <sub>CB</sub> =100Vdc, I <sub>E</sub> =0)	---	---	10	nAdc
I <sub>CEO</sub>	Collector emitter cutoff Current (V <sub>CE</sub> =50Vdc, I <sub>E</sub> =0)	---	---	10	nAdc
I <sub>EBO</sub>	Emitter Cutoff Current (V <sub>EB</sub> =5Vdc, I <sub>C</sub> =0)	---	---	2	nAdc
h <sub>FE</sub>	DC Current Gain (I <sub>C</sub> =4Adc, V <sub>CE</sub> =4Vdc) (I <sub>C</sub> =8Adc, V <sub>CE</sub> =4Vdc)	1000	---	12000	
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage (I <sub>C</sub> =4Adc, I <sub>B</sub> =16mA) (I <sub>C</sub> =8Adc, I <sub>B</sub> =80mA)	---	---	2 4	Vdc
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage (I <sub>C</sub> =8Adc, I <sub>B</sub> =80mA)	---	---	4.5	Vdc
V <sub>BE</sub>	Base-Emitter Saturation Voltage (I <sub>C</sub> =4Adc, V <sub>CE</sub> =4Vdc)	---	---	2.8	Vdc
C <sub>ob</sub>	Output Capacitance (V <sub>CB</sub> =10Vdc, f=0.1MHz, I <sub>E</sub> =0)	---	---	200	pF



DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	0.235	0.245	5.97	6.22	
B	0.205	0.215	5.21	5.46	
C	0.086	0.094	2.19	2.38	
D	0.025	0.035	0.64	0.89	
E	0.035	0.045	0.99	1.14	
F	0.250	0.265	6.35	6.73	
G	0.090		2.28		
J	0.018	0.023	0.48	0.58	
K	0.020	---	0.51	---	
S	0.370	0.410	9.40	10.42	
V	0.035	0.050	0.88	1.27	

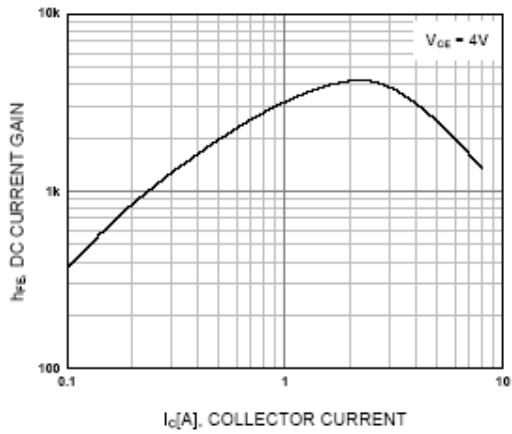


Figure 1. DC current Gain

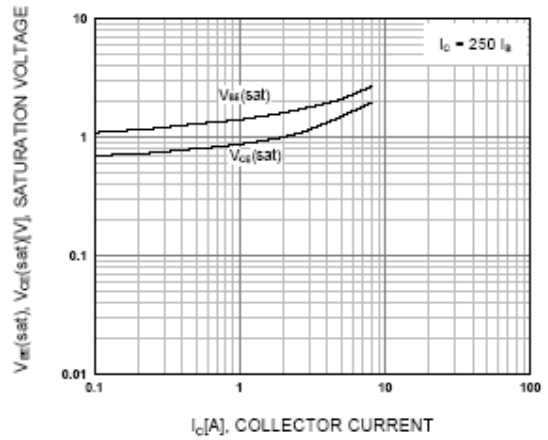


Figure 2. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

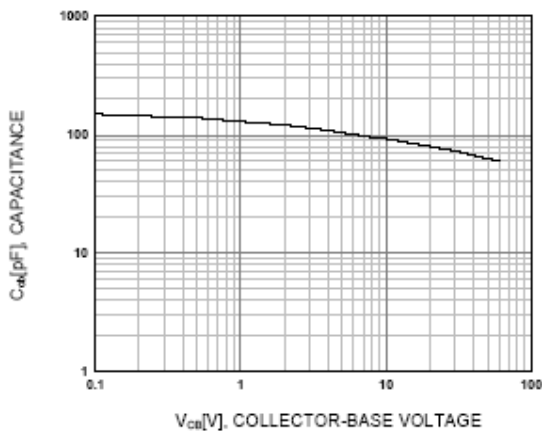


Figure 3. Collector Output Capacitance

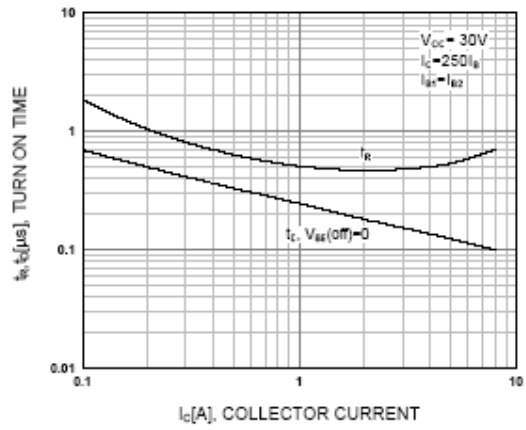


Figure 4. Turn On Time

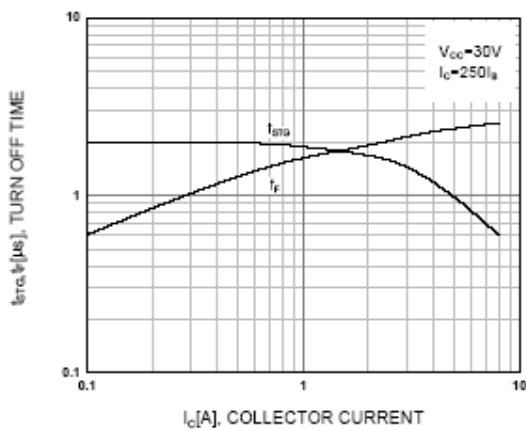


Figure 5. Turn Off Time

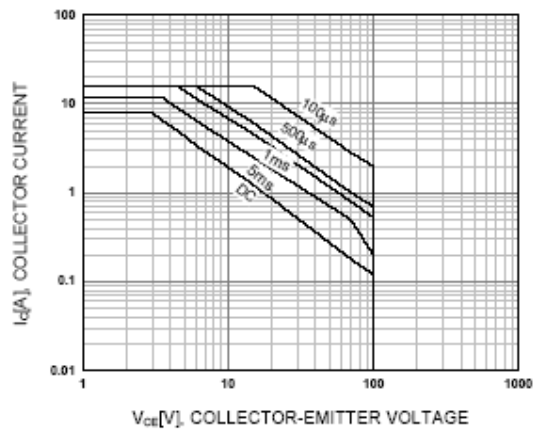


Figure 6. Safe Operating Area



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## Ordering Information

Device	Packing
(Part Number)-TP	Tape&Reel;2.5Kpcs/Reel

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