



Micro Commercial Components



Micro Commercial Components  
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# MJD122

## Silicon NPN epitaxial planer Transistors

### Features

- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 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

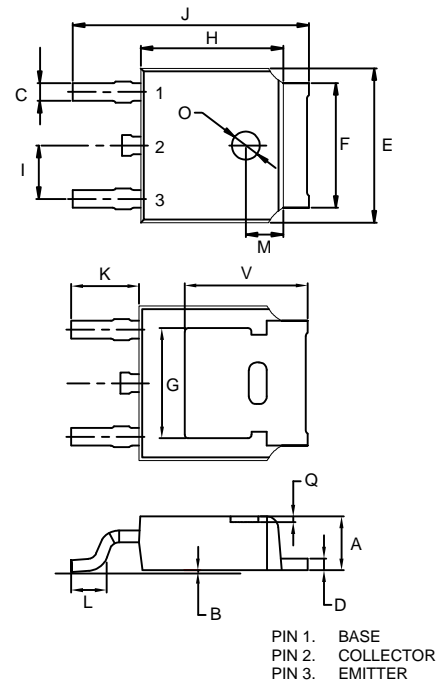
### Maximum Ratings @ 25°C Unless Otherwise Specified

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	uAdc
I <sub>CEO</sub>	Collector emitter cutoff Current (V <sub>CE</sub> =50Vdc, I <sub>E</sub> =0)	---	---	10	uAdc
I <sub>EBO</sub>	Emitter Cutoff Current (V <sub>EB</sub> =5Vdc, I <sub>C</sub> =0)	---	---	2	mAdc
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 100	---	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

### DPAK



#### DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.087	0.094	2.20	2.40	
B	0.000	0.005	0.00	0.13	
C	0.026	0.034	0.66	0.86	
D	0.018	0.023	0.46	0.58	
E	0.256	0.264	6.50	6.70	
F	0.201	0.215	5.10	5.46	
G	0.190		4.83		
H	0.236	0.244	6.00	6.20	
I	0.086	0.094	2.18	2.39	
J	0.386	0.409	9.80	10.40	
K	0.114		2.90		
L	0.055	0.067	1.40	1.70	
M	0.063		1.60		
O	0.043	0.051	1.10	1.30	
Q	0.000	0.012	0.00	0.30	
V	0.211		5.35		

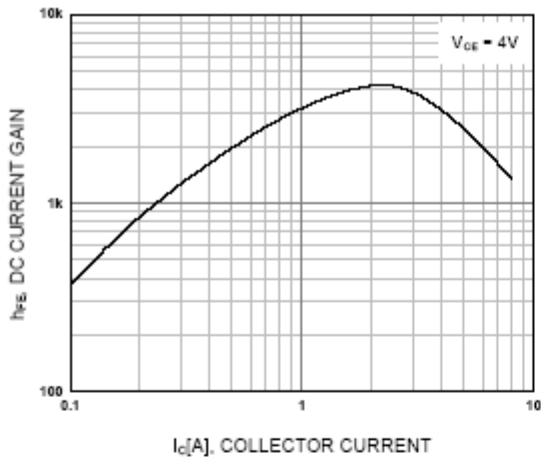


Figure 1. DC current Gain

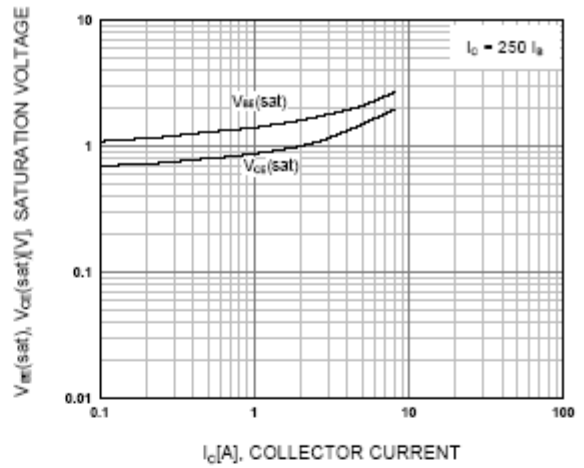


Figure 2. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

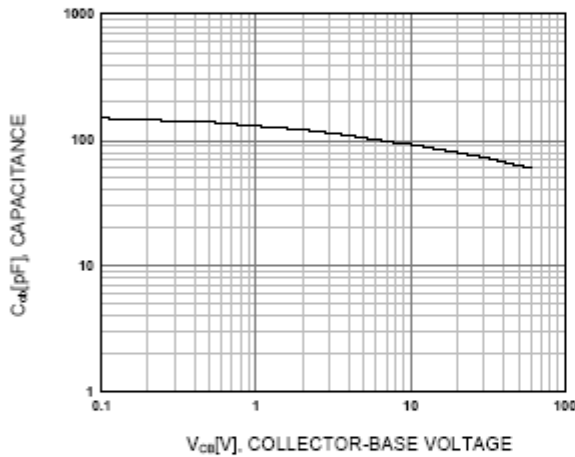


Figure 3. Collector Output Capacitance

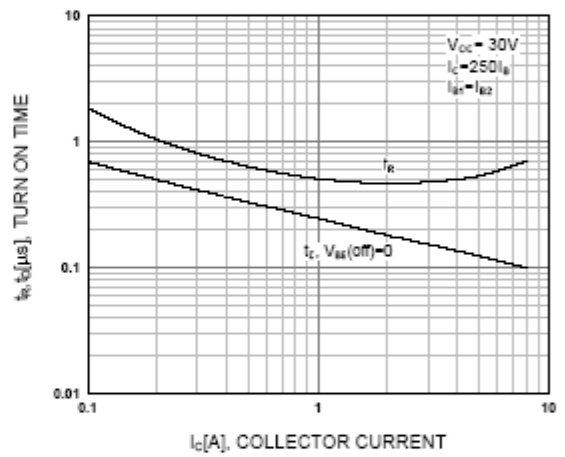


Figure 4. Turn On Time

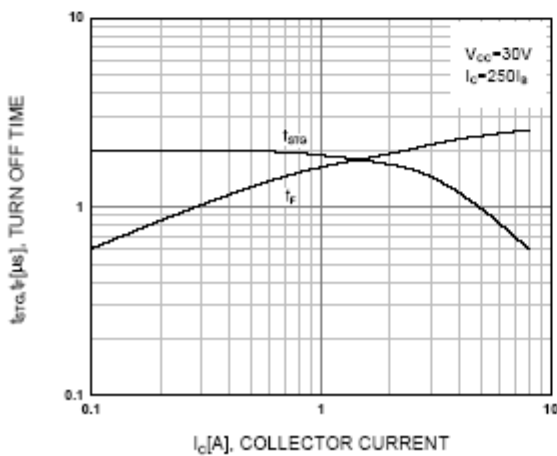


Figure 5. Turn Off Time

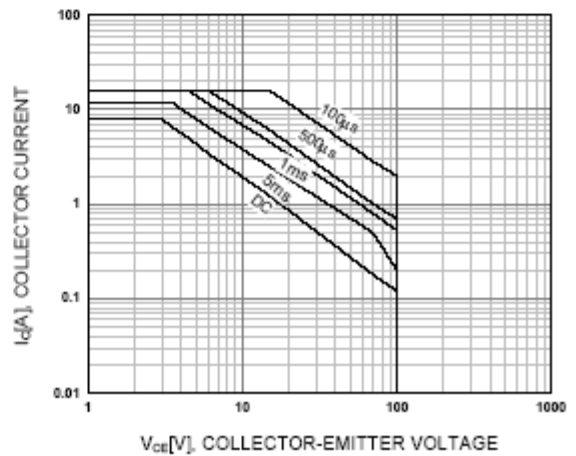


Figure 6. Safe Operating Area



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### Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 2.5Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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