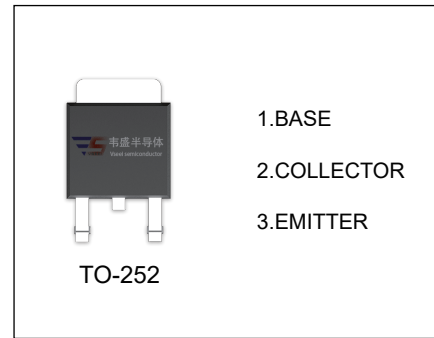


# MJD117 TRANSISTOR (PNP)

## FEATURES

- High DC Current Gain
- Electrically Similar to Popular TIP117



## MAXIMUM RATINGS (T<sub>a</sub>=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V <sub>CB0</sub>	Collector-Base Voltage	-100	V
V <sub>CEO</sub>	Collector-Emitter Voltage	-100	V
V <sub>EBO</sub>	Emitter-Base Voltage	-5	V
I <sub>C</sub>	Collector Current	-2	A
P <sub>C</sub>	Collector Power Dissipation	1.75	W
R <sub>θJA</sub>	Thermal Resistance From Junction To Ambient	72	°C/W
T <sub>J</sub> , T <sub>stg</sub>	Operation Junction and Storage Temperature Range	-55~+150	°C

## ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =-1mA, I <sub>E</sub> =0	-100			V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub> *	I <sub>C</sub> =-30mA, I <sub>B</sub> =0	-100			V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =-5mA, I <sub>C</sub> =0	-5			V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =-80V, I <sub>E</sub> =0			-10	μA
Collector cut-off current	I <sub>CEO</sub>	V <sub>CE</sub> =-80V, I <sub>B</sub> =0			-10	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =-5V, I <sub>C</sub> =0			-2	mA
DC current gain	h <sub>FE(1)</sub> *	V <sub>CE</sub> =-3V, I <sub>C</sub> =-0.5A	500			
	h <sub>FE(2)</sub> *	V <sub>CE</sub> =-3V, I <sub>C</sub> =-2A	1000		12000	
	h <sub>FE(3)</sub> *	V <sub>CE</sub> =-3V, I <sub>C</sub> =-4A	200			
Collector-emitter saturation voltage	V <sub>CE(sat)</sub> *	I <sub>C</sub> =-2A, I <sub>B</sub> =-8mA			-2	V
		I <sub>C</sub> =-4A, I <sub>B</sub> =-40mA			-3	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub> *	I <sub>C</sub> =-4A, I <sub>B</sub> =-40mA			-4	V
Base-emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> =-3V, I <sub>C</sub> =-2A			-2.8	V
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =-10V, I <sub>E</sub> =0, f=0.1MHz			200	pF
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =-10V, I <sub>C</sub> =-0.75A, f=1MHz	25			MHz

\*Pulse test