

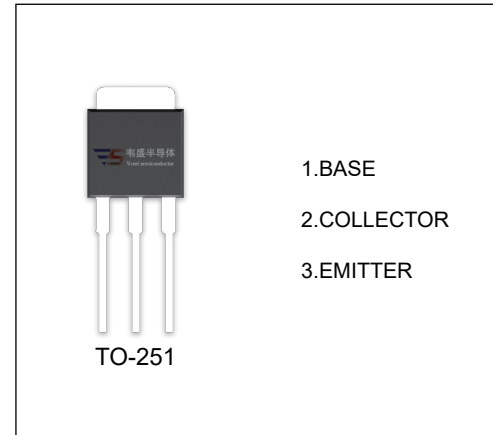
# MJD112 TRANSISTOR (NPN)

## FEATURES

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## 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 -Continuous	2	A
P <sub>C</sub>	Collector Power Dissipation	1	W
R <sub>θJC</sub>	Thermal resistance, junction to case	6.25	°C/W
R <sub>θJA</sub>	Thermal resistance, junction to Ambient	71.4	°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> =100V, I <sub>E</sub> =0			20	μA
Collector-emitter cut-off current	I <sub>CEO</sub>	V <sub>CE</sub> =50V, I <sub>E</sub> =0			20	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> =500mA	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)1</sub>	I <sub>C</sub> =2A, I <sub>B</sub> =8mA			2	V
	V <sub>CE(sat)2</sub>	I <sub>C</sub> =4A, I <sub>B</sub> =40mA			3	V
Base-emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> =3V, I <sub>C</sub> =2A			2.8	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =0.75A, f=1MHz	25			MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=0.1MHz			100	pF

# Typical Characteristics

# MJD112

