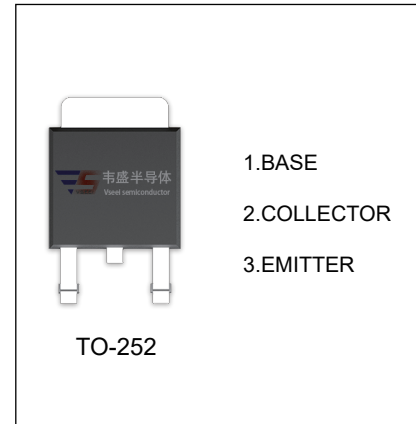


MJD31C TRANSISTOR (NPN)

FEATURES

- Designed for General Purpose Amplifier and Low Speed Switching
- Lead Formed for Surface Mount Applications in Plastic Sleeves (No Suffix)
- Straight Lead Version in Plastic Sleeves ("–1" Suffix)
- Lead Formed Version in 16 mm Tape and Reel ("T4" Suffix)
- Electrically Similar to Popular TIP31 and TIP32 Series



MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Max	Unit
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	3	A
P_C	Collector Power Dissipation	1.25	W
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55-150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=1\text{mA}, I_E=0$	100		V
Collector-emitter breakdown voltage *	$V_{CEO(sus)}$	$I_C=30\text{mA}, I_B=0$	100		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=1\text{mA}, I_C=0$	5		V
Collector cut-off current	I_{CES}	$V_{CE}=100\text{V}, V_{EB}=0$		20	μA
Collector cut-off current	I_{CEO}	$V_{CE}=60\text{V}, I_B=0$		50	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$		1	mA
DC current gain	$h_{FE(1)}$	$V_{CE}=4\text{V}, I_C=1\text{A}$	25		
	$h_{FE(2)}$	$V_{CE}=4\text{V}, I_C=3\text{A}$	15	75	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=3\text{A}, I_B=0.375\text{A}$		1.2	V
Base-emitter voltage	$V_{BE(on)}$	$V_{CE}=4\text{V}, I_C=3\text{A}$		1.8	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=0.5\text{A}, f_T=1\text{KHz}$	3		MHz

* Pulse Test: $PW \leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$.

