

**isc Silicon NPN Power Transistor****MJB31C****DESCRIPTION**

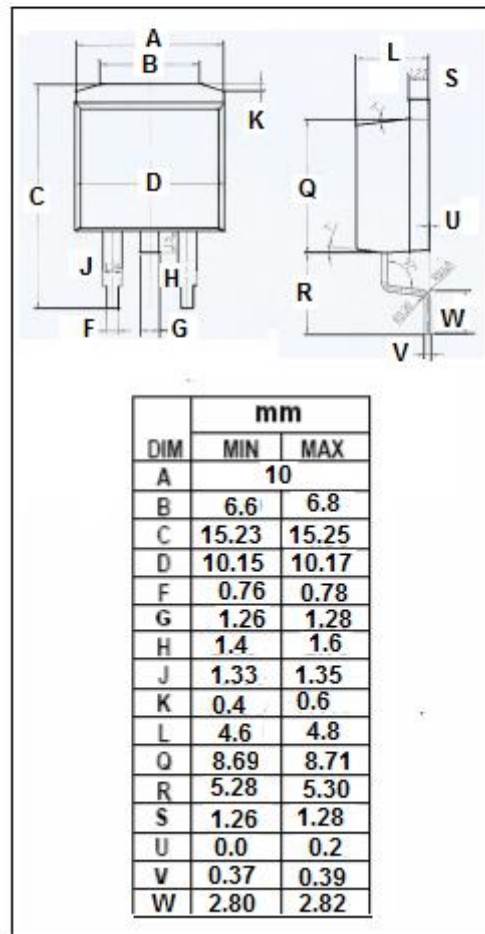
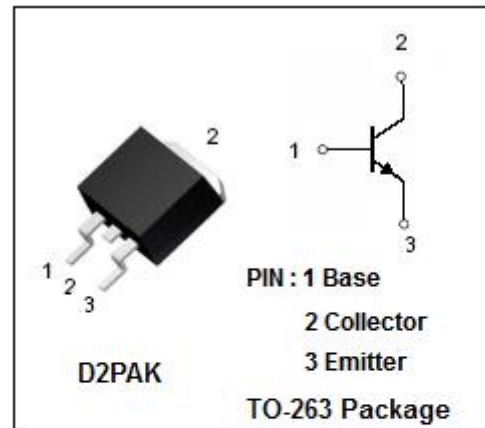
- Lead formed for surface mount applications(NO suffix)
- Electrically the same as TIP31 series
- Pb-free package are available
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- General purpose amplifier and switching applications

**ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )**

SYMBOL	PARAMETER	VALUE	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	6	A
$I_{CP}$	Collector Current-Pulse	10	A
$I_B$	Base Current	2	A
$P_C$	Total Power Dissipation @ $T_a=25^\circ\text{C}$	2	W
$P_C$	Total Power Dissipation @ $T_C=25^\circ\text{C}$	65	W
$T_J$	Junction Temperature	-65~150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$



**isc Silicon NPN Power Transistor****MJB31C****ELECTRICAL CHARACTERISTICS****T<sub>C</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V <sub>(BR)CEO</sub> *	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 30mA; I <sub>B</sub> = 0	100			V
V <sub>CE(sat)</sub> *	Collector-Emitter Saturation Voltage	I <sub>C</sub> =3A; I <sub>B</sub> = 375mA			1.2	V
V <sub>BE(on)</sub> *	Base-Emitter On Voltage	I <sub>C</sub> = 3A; V <sub>CE</sub> =4V			1.8	V
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 60V; I <sub>E</sub> = 0			0.3	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			1	mA
h <sub>FE1</sub> *	DC Current Gain	I <sub>C</sub> = 1A; V <sub>CE</sub> = 4 V	25			
h <sub>FE2</sub> *	DC Current Gain	I <sub>C</sub> = 3A; V <sub>CE</sub> = 4 V	10		50	
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 0.5A; V <sub>CE</sub> = 10V		3		MHz

\*:Pulse test PW≤300us,duty cycle≤2%

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