

**isc Silicon PNP Power Transistor**
**MJD42C1G**
**DESCRIPTION**

- Excellent Safe Operating Area
- Collector-Emitter Saturation Voltage-  
:  $V_{CE(sat)} = -1.5 \text{ V(Max)} @ I_C = -6\text{A}$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

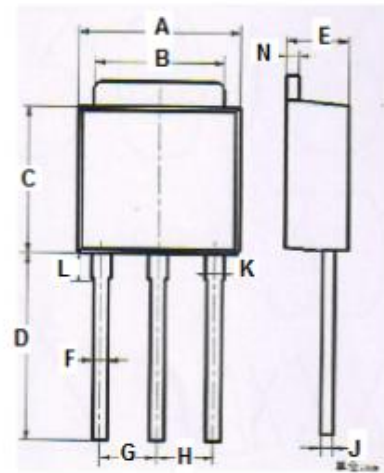
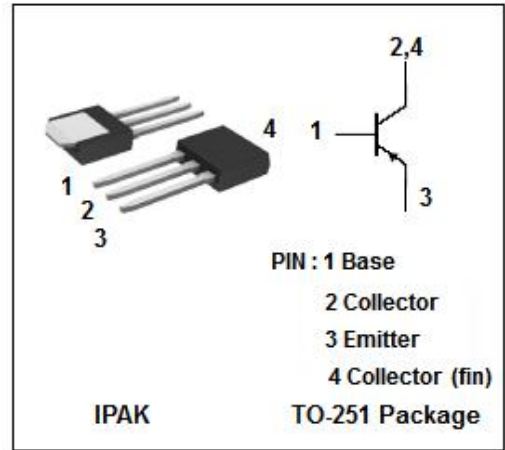
- Designed for use in general purpose amplifier and low speed switching applications

**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
$I_B$	Base Current	-2	A
$P_C$	Collector Power Dissipation@ $T_c=25^\circ\text{C}$	20	W
	Collector Power Dissipation@ $T_a=25^\circ\text{C}$	1.75	
$T_j$	Junction Temperature	-65~150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	6.25	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	71.4	$^\circ\text{C/W}$



DIM	mm	
	MIN	MAX
A	6.40	6.48
B	5.10	5.50
C	5.80	6.20
D	9.20	9.60
E	2.20	2.40
F	0.50	0.70
G	2.09	2.49
H	2.09	2.49
J	0.40	0.60
K	0.70	0.90
L	1.60	2.00
N	0.40	0.60

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## ELECTRICAL CHARACTERISTICS

T<sub>C</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>CE0(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = -30mA ; I <sub>B</sub> = 0	-100		V
V <sub>CE(sat)-1</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -6A ; I <sub>B</sub> = -0.6A		-1.5	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	I <sub>C</sub> = -6A ; V <sub>CE</sub> = 4V		-2	V
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = -60V ; I <sub>B</sub> =0		-50	μA
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = -100V ; I <sub>E</sub> =0		-20	μA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = -5V ; I <sub>C</sub> = 0		-0.5	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = -0.3A ; V <sub>CE</sub> = -4V	30		
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = -3A ; V <sub>CE</sub> = -4V	15	75	
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = -0.5A ; V <sub>CE</sub> = -10V ; f <sub>test</sub> = 1.0MHz	3		MHz

Pulse Test: PW≤300μs, Duty Cycle≤2.0%

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