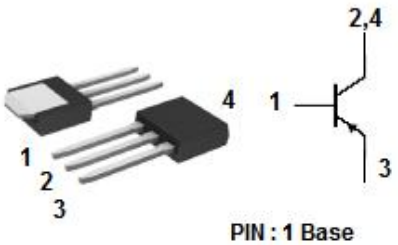
isc Silicon PNP Power Transistor — MJD42C1G

DESCRIPTION

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



PIN : 1 Base
2 Collector
3 Emitter
4 Collector (fin)

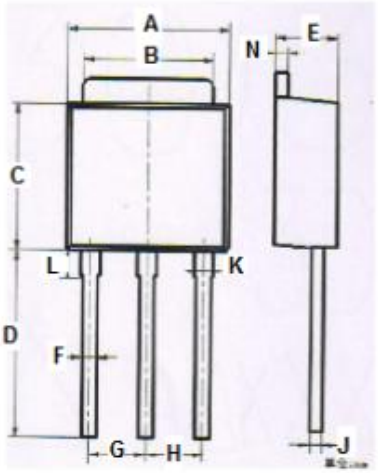
IPAK — TO-251 Package

APPLICATIONS

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

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

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℃	20	W
	Collector Power Dissipation@Ta=25℃	1.75	
T_j	Junction Tmperature	-65~150	℃
T_{stg}	Storage Temperature Range	-65~150	℃



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

THERMAL CHARACTERISTICS

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

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= -30mA ;I_B= 0	-100		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C=- 6A ;I_B= -0.6A		-1.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= -6A ; V_{CE}= 4V		-2	V
I_{CEO}	Collector Cutoff Current	V_{CE}=- 60V; I_B=0		-50	μA
I_{CBO}	Collector Cutoff Current	V_{CB}= -100V; I_E=0		-20	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= -5V; I_C= 0		-0.5	mA
h_{FE-1}	DC Current Gain	I_C= -0.3A ; V_{CE}= -4V	30		
h_{FE-2}	DC Current Gain	I_C= -3A ; V_{CE}= -4V	15	75	
f_T	Current-Gain—Bandwidth Product	I_C= -0.5A ; V_{CE}= -10V;f_{test}= 1.0MHz	3		MHz

Pulse Test: PW≤300μs, Duty Cycle≤2.0%