isc Silicon NPN Power Transistors MJD41C

DESCRIPTION

- DC Current Gain -h_{FE} = 30(Min)@ I_C= 0.3A
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = 100V(Min)
- Complement to Type MJD42C
- DPAK for Surface Mount Applications
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

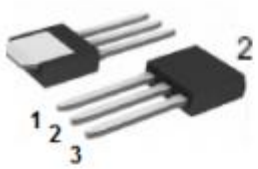
- Designed for use in general purpose amplifer and low speed switching applications

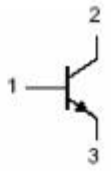
ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

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_{CM}	Collector Current-Peak	10	A
I_B	Base Current	2	A
P_C	Collector Power Dissipation T_C=25℃	20	W
	Collector Power Dissipation T_a=25℃	1.75	
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

THERMAL CHARACTERISTICS

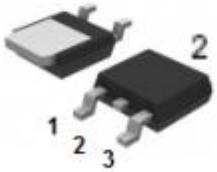
SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	6.25	℃/W
$R_{th\ j\text{-}a}$	Thermal Resistance,Junction to Ambient	71.4	℃/W

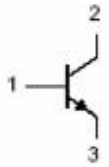




IPAK

PIN : 1 Base
2 Collector
3 Emitter
TO-251 Package





DPAK

PIN : 1 Base
2 Collector
3 Emitter
TO-252 Package

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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
$V_{CE(sat)}$	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		2.0	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 100V; I_E= 0		10	uA
I_{CEO}	Collector Cutoff Current	V_{CE}= 60V; I_B= 0		50	uA
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	3		MHz
Switching Time					
t_{on}	Turn-On Time	I_C= 6A; I_{B1}= -I_{B2}= 0.6A; $V_{BE(off)}$= 4V, R_L= 5Ω		0.6	μs
t_{off}	Turn-Off Time			1.0	μs

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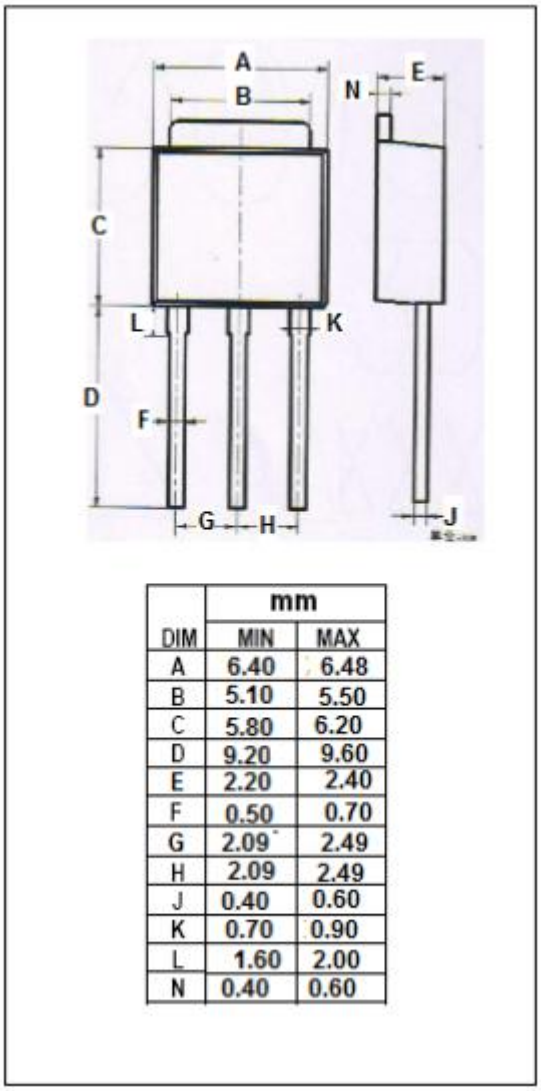
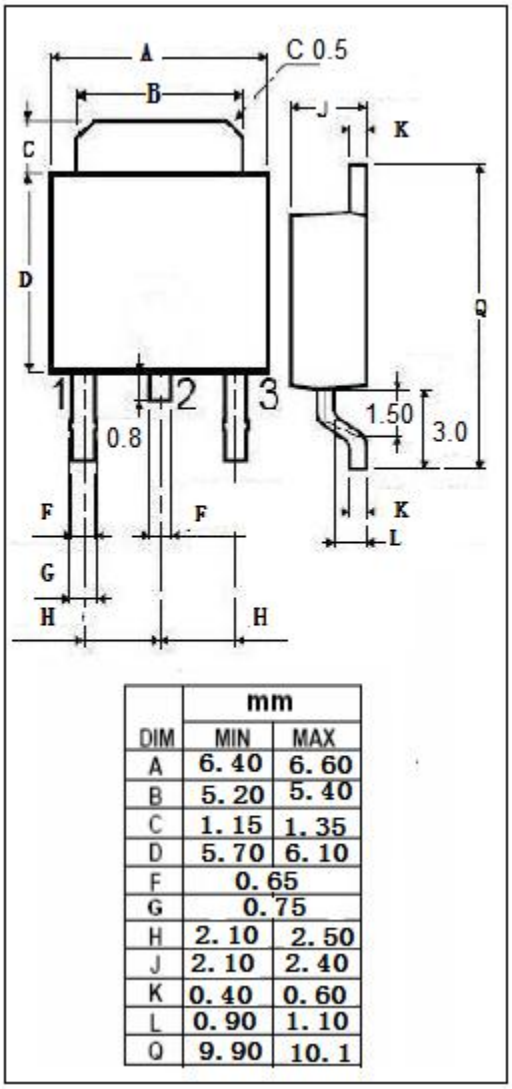
Outline Drawing



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



DIM	mm MIN	MAX
A	6.40	6.60
B	5.20	5.40
C	1.15	1.35
D	5.70	6.10
F	0.65	
G	0.75	
H	2.10	2.50
J	2.10	2.40
K	0.40	0.60
L	0.90	1.10
Q	9.90	10.1