isc Silicon NPN Darlington Power Transistor MJD122

DESCRIPTION

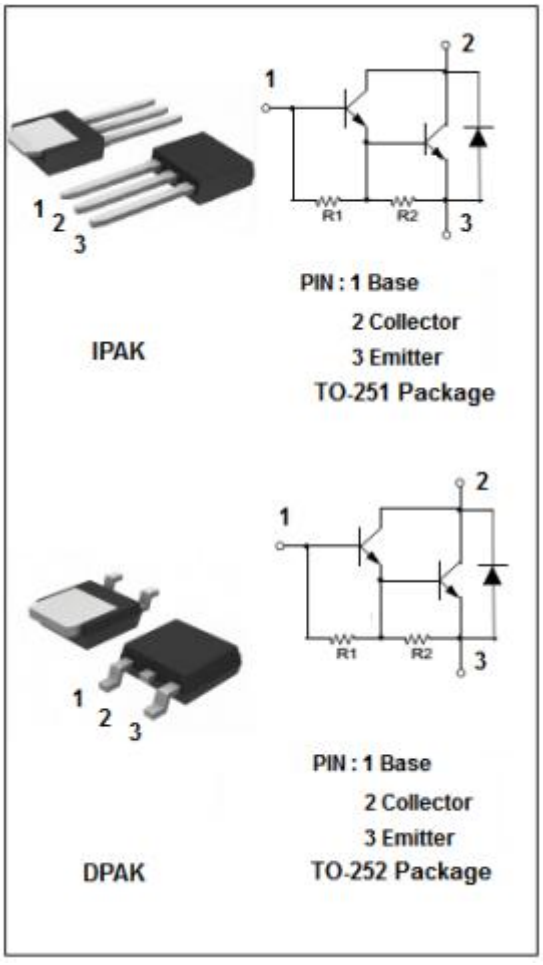
- High DC current gain
- Built-in a damper diode at E-C
- Monolithic Construction With Built-in Base-Emitter Shunt Resistors
- Complementary Pairs Simplifies Designs
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for general purpose amplifier 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	5	A
I_{Cm}	Collector Current-Peak	8	A
I_B	Base Current-Continuous	120	mA
P_C	Collector Power Dissipation Ta=25℃	20	W
	Collector Power Dissipation T_C=25℃	0.16	
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

isc Silicon NPN Darlington Power Transistor MJD122

ELECTRICAL CHARACTERISTICS

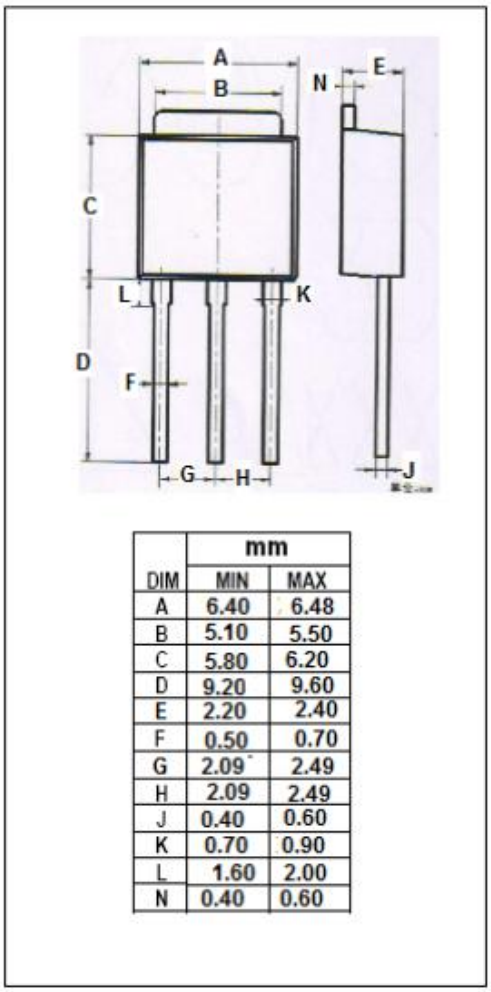
T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(sus)}$	Collector-Emitter Sustaining Voltage	I_C= 30mA; I_B= 0	100			V
I_{CEO}	Collector Cutoff Current	V_{CE}= 50V; I_C= 0			10	uA
I_{CBO}	Collector Cutoff Current	V_{CB}=100V; I_E= 0			10	uA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0			2	mA
h_{FE-1}*	DC Current Gain	I_C= 4A; V_{CE}=4V	1000		12000	
h_{FE-2}*	DC Current Gain	I_C= 8A; V_{CE}= 4V	100			
$V_{CE(sat)-1}$*	Collector-Emitter Saturation Voltage	I_C= 4A; I_B= 16mA			2.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 8A; I_B= 80mA			4.0	V
*$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 8A; I_B= 80mA			4.5	V
$V_{BE(on)}$*	Base-Emitter On Voltage	I_C= 4A; V_{CE}= 4V			2.8	V
C_{OB}	Output Capacitance	I_E= 0; V_{CB}= 10V; f= 0.1MHz		200		pF

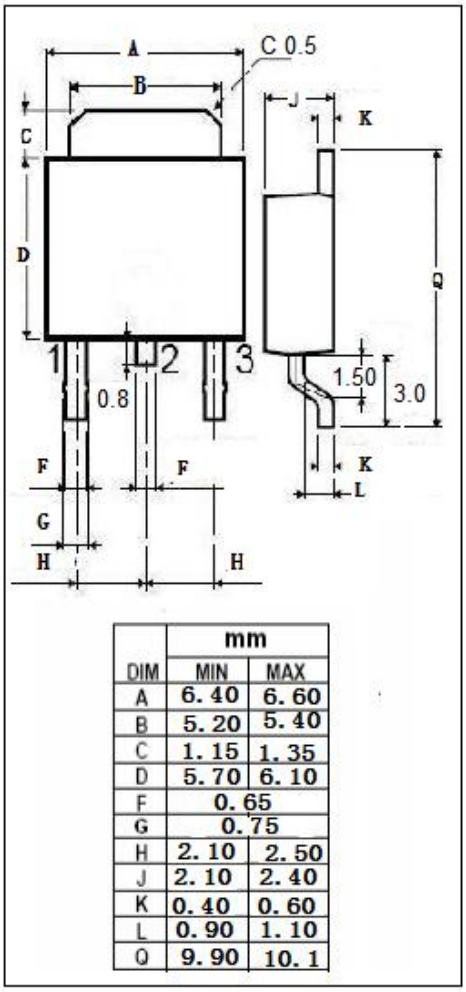
*:Pulse test PW≤300us,duty cycle≤2%

isc Silicon NPN Darlington Power Transistor MJD122

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