

isc Silicon NPN Darlington Power Transistor

MJD112

DESCRIPTION

- High DC current gain
- Lead formed for surface mount applications(NO suffix)
- Straight lead(IPAK, “-1” suffix)
- Built-in a damper diode at E-C
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

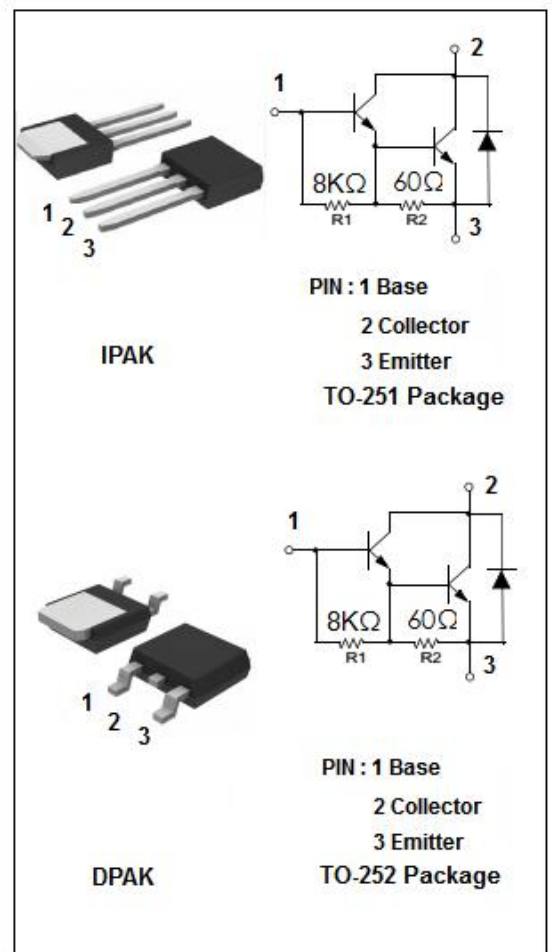
- Designed for general purpose amplifier and low speed switching applications.

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

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	2	A
I_{CP}	Collector Current-Pulse	4	A
I_B	Base Current-Continuous	50	mA
P_C	Collector Power Dissipation $T_a=25^\circ\text{C}$	1.75	W
	Collector Power Dissipation $T_c=25^\circ\text{C}$	20	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

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



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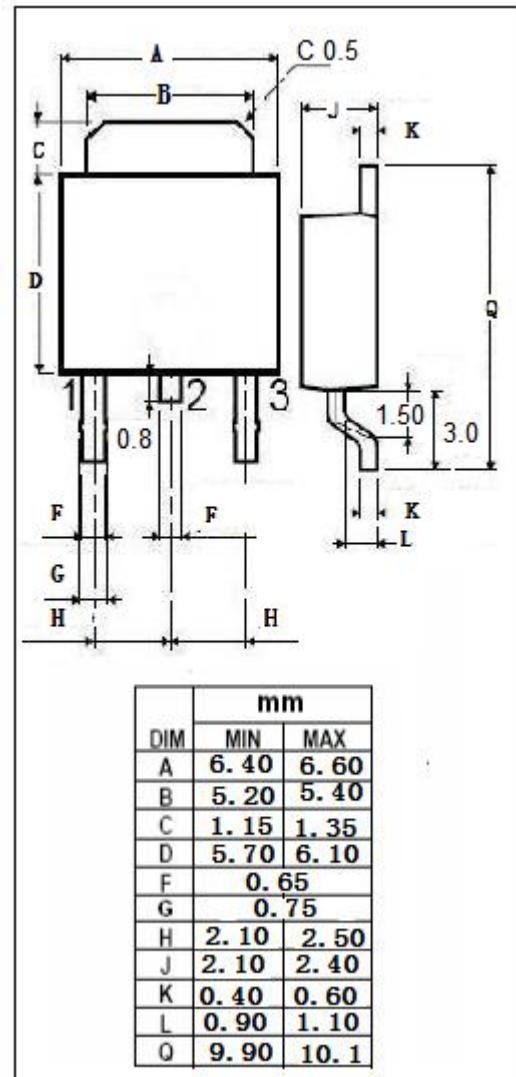
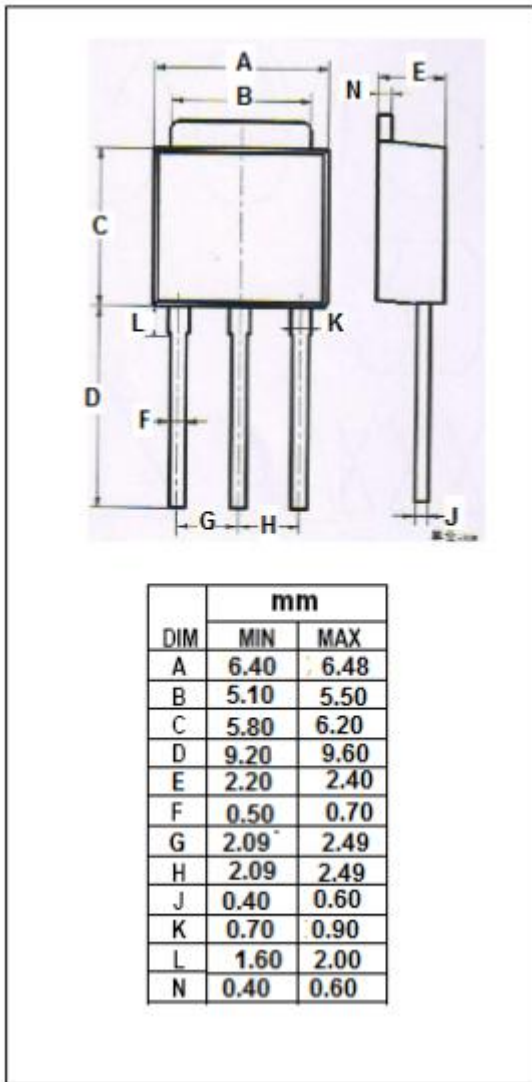
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ELECTRICAL CHARACTERISTICS

T_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CE(sat)-1*}	Collector-Emitter Saturation Voltage	I _C = 2A; I _B = 8mA			2.0	V
V _{CE(sat)-2*}	Collector-Emitter Saturation Voltage	I _C = 4A; I _B = 40mA			3.0	V
V _{BE(sat)*}	Base-Emitter Saturation Voltage	I _C = 4A; I _B = 40mA			4.0	V
V _{BE(on)*}	Base-Emitter On Voltage	I _C = 2A; V _{CE} = 3V			2.8	V
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 30mA; I _B = 0	100			V
I _{CBO}	Collector Cutoff Current	V _{CB} = 80V; 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 = 0.5A; V _{CE} = 3V	500			
h _{FE-2*}	DC Current Gain	I _C = 2A; V _{CE} = 3V	1K		12K	
h _{FE-3*}	DC Current Gain	I _C = 4A; V _{CE} =3V	200			
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V; f= 1.0MHz		100		pF
f _T	Current-Gain—Bandwidth Product	I _C = 0.75A; V _{CE} = 10V	25			MHz

*:Pulse test PW≤300us,duty cycle≤2%

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Outline Drawing

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