

isc Silicon NPN Darlington Power Transistor

2SD711

DESCRIPTION

- High DC Current Gain
- Low Collector Saturation Voltage
- Excellent Safe Operating Area
- High Reliability
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

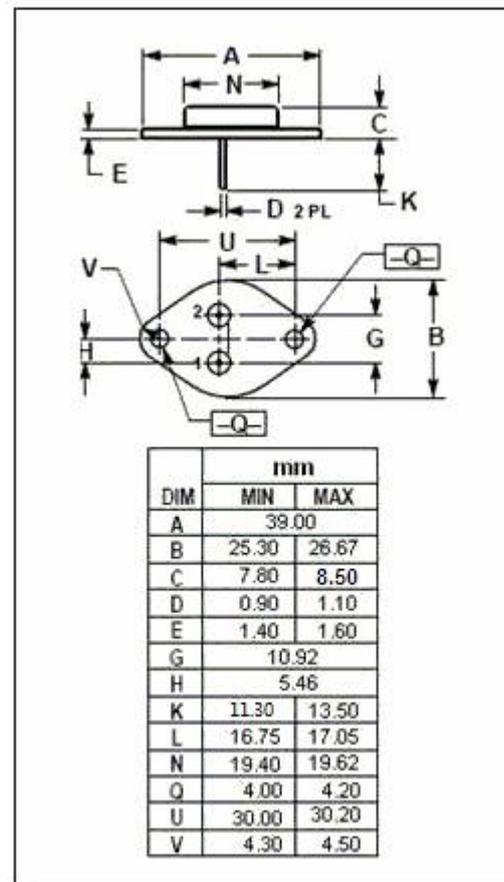
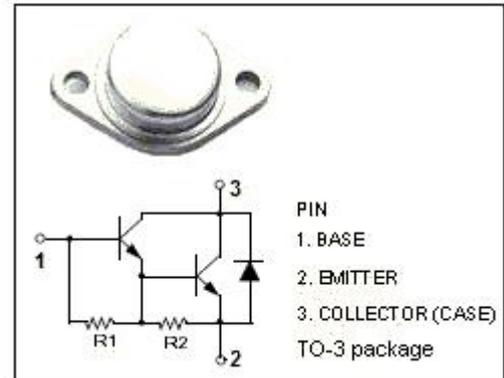
- Motor controls
- Inverters, choppers
- Switching regulators
- General purpose power amplifiers

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CBO}	Collector-Base Voltage	500	V
V _{CEO}	Collector-Emitter Voltage	500	V
V _{CEO(SUS)}	Collector-Emitter Voltage	450	V
V _{EBO}	Emitter-Base Voltage	6	V
I _C	Collector Current	15	A
I _B	Base Current	1	A
P _C	Collector Power Dissipation @T _C =25°C	100	W
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature Range	-55~150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th-j-c}	Thermal Resistance, Junction to Case	1.25	°C/W



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ELECTRICAL CHARACTERISTICS

 T_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = 1mA; I _E = 0	500			V
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 1mA; I _B = 0	500			V
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 50mA; I _B = 0	450			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 50mA; I _C = 0	6			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 15A; I _B = 0.3A			1.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 15A; I _B = 0.3A			2.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} =500V; I _E =0			1	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 6V; I _C = 0			50	mA
h _{FE}	DC Current Gain	I _C = 10A; V _{CE} = 1.5V	100			

Switching times

t _{on}	Turn-on Time	I _C = 15A , I _{B1} = I _{B2} = 0.3A			2.0	μ s
t _{stg}	Storage Time				15	μ s
t _f	Fall Time				5.0	μ s

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