

isc Silicon NPN Power Transistor

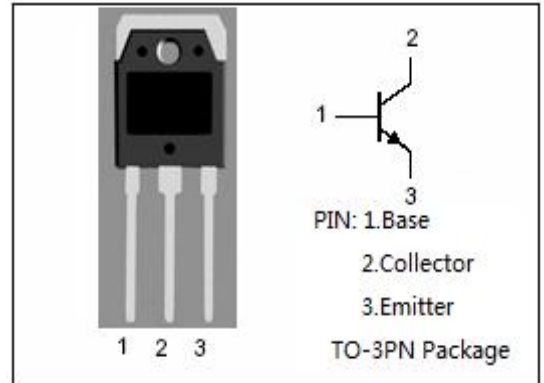
2SD1049

DESCRIPTION

- High Current Capability
- Fast Switching Speed
- High Reliability
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

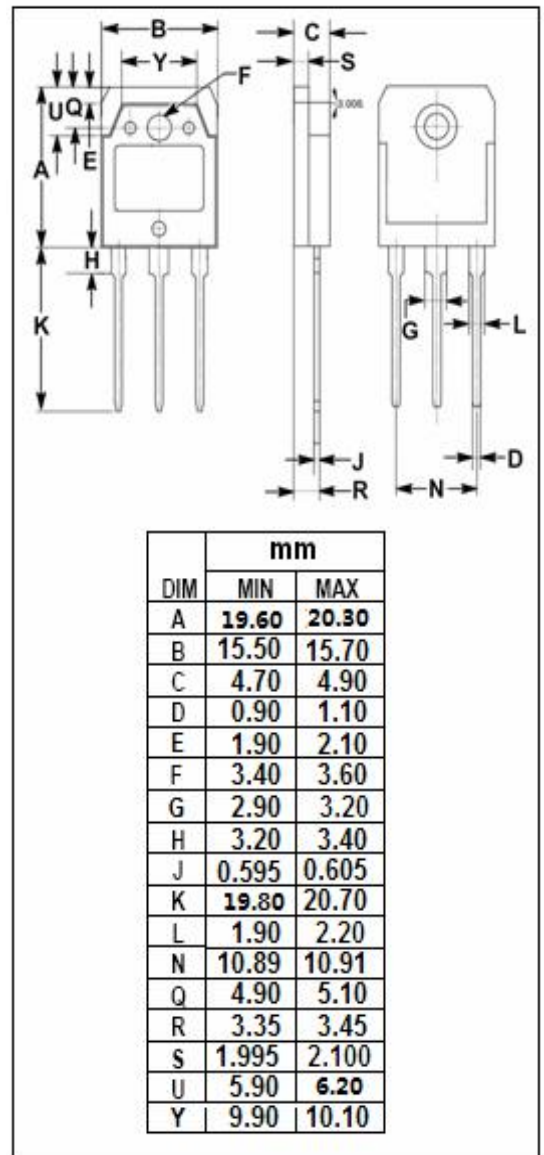
APPLICATIONS

- Switching regulators
- Motor controls
- High frequency inverters
- General purpose power amplifiers



Absolute maximum ratings(Ta=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CB0}	Collector-Base Voltage	120	V
V _{CEO}	Collector-Emitter Voltage	80	V
V _{EBO}	Emitter-Base Voltage	7	V
I _C	Collector Current-Continuous	25	A
I _B	Base Current-Continuous	5	A
P _C	Collector Power Dissipation @T _C =25°C	80	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	1.55	°C/W

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ELECTRICAL CHARACTERISTICS

T_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 10mA; I _B = 0	80			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = 0.1mA; I _E = 0	120			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 0.1mA; I _C = 0	7			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 25A; I _B = 2.5A			1.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 25A; I _B = 2.5A			2.0	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 120V; I _E = 0			0.1	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 7V; I _C = 0			0.1	mA
h _{FE}	DC Current Gain	I _C = 25A; V _{CE} = 5V	20			

Switching times Resistive Load

t _{on}	Turn-on Time				1.0	μs
t _s	Storage Time	I _C = 25A; I _{B1} = I _{B2} = 2.5A; R _L = 3 Ω, P _W = 20 μs; Duty ≤ 2%			2.5	μs
t _f	Fall Time				0.4	μs

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