

isc Silicon NPN Power Transistor

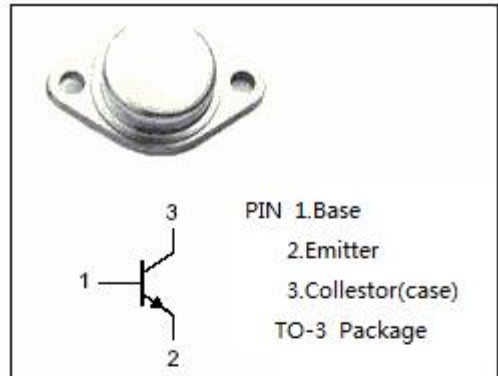
2SD1040

DESCRIPTION

- High Current Capability
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

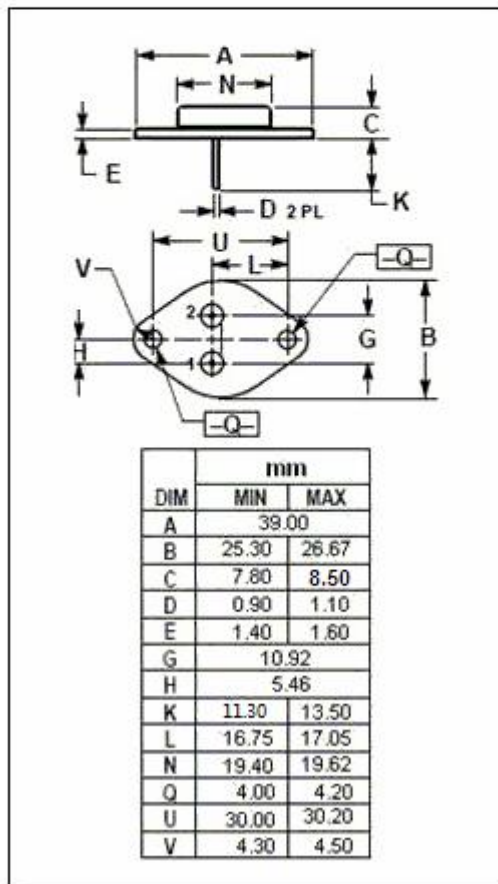
APPLICATIONS

- Designed for use in switching regulators, inverters, wide-band amplifiers and power oscillators in industrial and commercial applications.



ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CB0}	Collector- Base Voltage	150	V
V _{CEO}	Collector-Emitter Voltage	100	V
V _{EB0}	Emitter-Base Voltage	7	V
I _c	Collector Current-Continuous	15	A
I _B	Base Current-Continuous	5	A
P _C	Collector Power Dissipation @T _c =25°C	150	W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature Range	-65~150	°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_j=25°C 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 = 15A; I _B = 1.5A		2.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 15A; I _B = 1.5A		3.0	V
I _{CBO}	Collector Base Cutoff Current	V _{CB} =150V; I _E = 0		0.5	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 7.0V; I _C = 0		1.0	mA
h _{FE-1}	DC Current Gain	I _C = 5A ; V _{CE} = 4V	35	200	
h _{FE-2}	DC Current Gain	I _C = 15A ; V _{CE} = 4V	20		

Switching times

t _r	Rise Time	V _{CC} = 30V, I _C = 15A , I _{B1} = -I _{B2} = 1.5A,		1.2	μ s
t _s	Storage Time			3.0	μ s
t _f	Fall Time			1.8	μ s

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