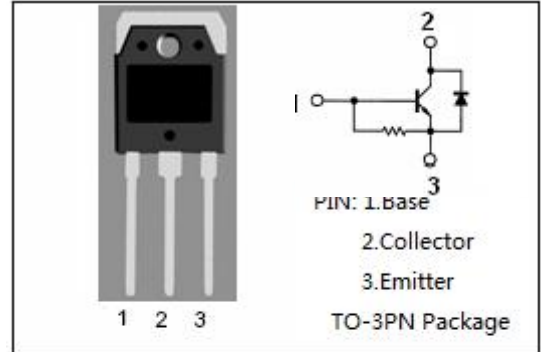


isc Silicon NPN Power Transistor
2SD1399
DESCRIPTION

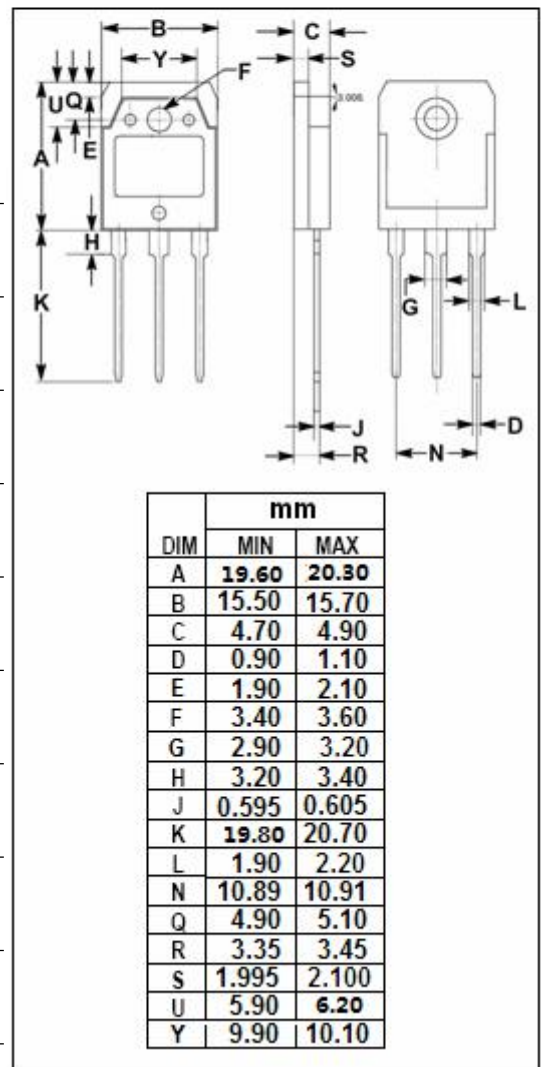
- High Breakdown Voltage
: $V_{CBO} = 1500V$ (Min)
- High Switching Speed
- Built-in damper diode
- Minimum Lot-to-Lot variations for robust device performance and reliable operation


APPLICATIONS

- Designed for horizontal output applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	1500	V
V_{CEO}	Collector-Emitter Voltage	800	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	6	A
I_{CM}	Collector Current-Peak	16	A
P_C	Collector Power Dissipation @ $T_c = 25^\circ C$	50	W
T_j	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-55-150	$^\circ C$



isc Silicon NPN Power Transistor

2SD1399

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	1500			V
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C =30mA; R _{BE} = ∞	800			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 200mA; I _C = 0	7			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 5A; I _B = 1A			5.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 5A; I _B = 1A			1.5	V
h _{FE}	DC Current Gain	I _C = 1A; V _{CE} = 5V	8			
I _{CBO}	Collector Cutoff Current	V _{CB} = 800V; I _E = 0			10	μA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 4V; I _C = 0	40		130	mA
f _T	Transition Frequency	I _C = 1A; V _{CE} = 10V		3		MHz
V _{ECF}	C-E Diode Forward Voltage	I _F = 6A			2.0	V
t _f	Fall Time	I _C = 5A; I _{B1} = 1A; I _{B2} = 2A; R _L = 40 Ω; V _{CC} = 200V			0.7	μs

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