

isc Silicon NPN Darlington Power Transistor
2ST501T
DESCRIPTION

- Low Collector Saturation Voltage
- High DC Current Gain
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

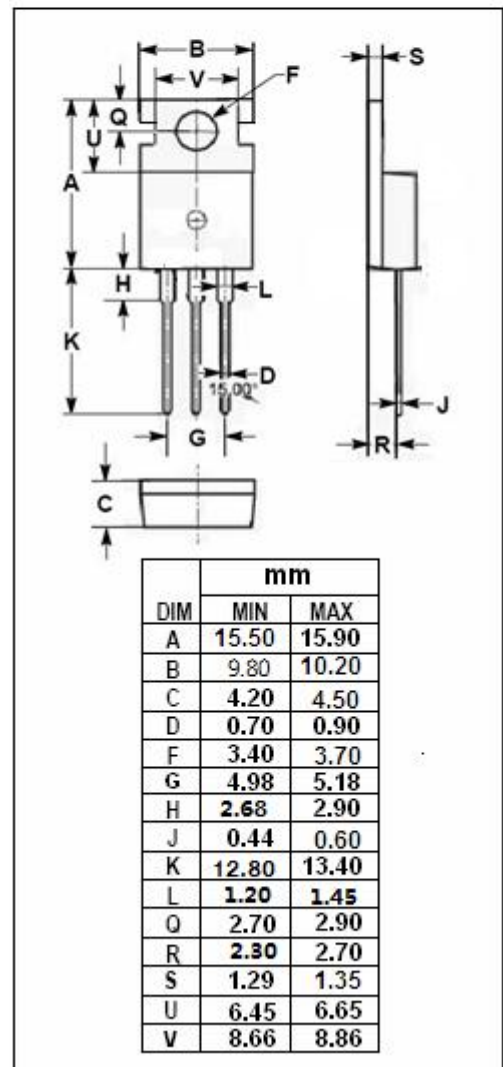
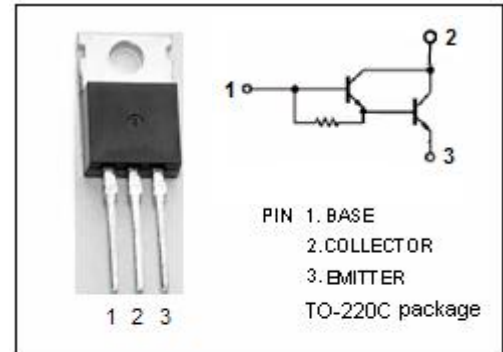
- Audio power amplifiers
- Relay & solenoid drivers
- Motor controls
- General purpose power amplifiers

ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CB0}	Collector-Base Voltage	500	V
V _{CEO(SUS)}	Collector-Emitter Voltage	330	V
V _{EB0}	Emitter-Base Voltage	5	V
I _C	Collector Current-Continuous	8	A
I _B	Base Current-Continuous	12	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)EBO}	Emitter-Base Breakdown Voltage	I _E = 150mA; I _C = 0	6			V
V _{CEO(sus)}	Collector-Emitter Sustaining Voltage (I _B = 0)	I _C = 10 mA,	330			V
I _{CEO}	Collector Cut-off Current (I _B = 0)	V _{CE} = 300 V			0.1	mA
I _{CBO}	Collector Cutoff Current	V _{CB} = 300V; I _E = 0			0.1	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 6V; I _C =0			2	mA
h _{FE}	DC Current Gain	I _C = 2A; V _{CE} = 2V	2000			
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 2A; I _B = 2mA			1.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 2A; I _B = 2mA			2.0	V

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