

isc Silicon NPN Darlington Power Transistor

2SD1072

DESCRIPTION

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

APPLICATIONS

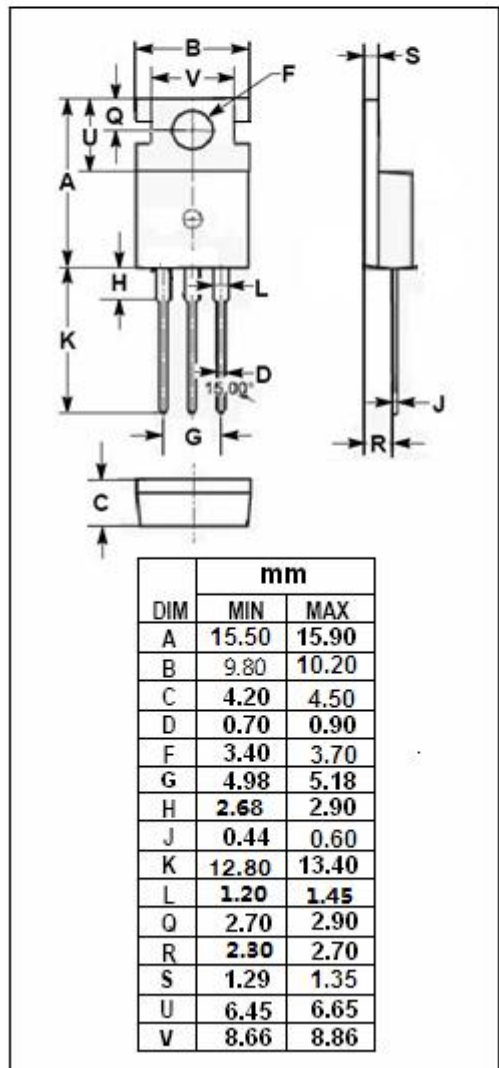
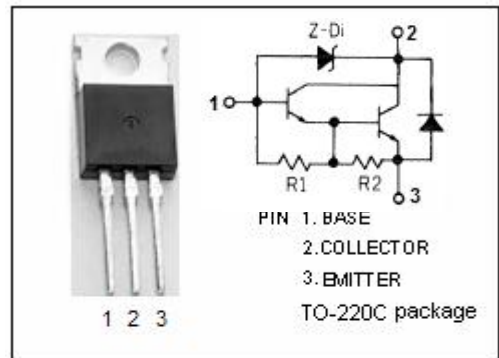
- Switching regulators
- DC-DC converter
- Solid state relay
- General purpose power amplifiers

ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CBO}	Collector-Base Voltage	450	V
V _{CEO(SUS)}	Collector-Emitter Voltage	350	V
V _{EBO}	Emitter-Base Voltage	20	V
I _C	Collector Current-Continuous	5	A
I _B	Base Current-Continuous	0.3	A
P _C	Collector Power Dissipation @ T _C =25°C	60	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	2.0	°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 = 0.1mA; I _E = 0	450			V
V _{CEO(SUS)}	Collector-Emitter Breakdown Voltage	I _C = 50mA; R _{BE} = ∞	350			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 50mA; I _C = 0	20			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 3A; I _B = 30mA			1.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 3A; I _B = 30mA			2.0	V
I _{CBO}	Collector Cutoff Current	V _{CB} =450V; I _E = 0			0.1	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 20V; I _C =0			50	mA
h _{FE}	DC Current Gain	I _C = 3A; V _{CE} = 1.5V	500			

Switching Times

t _{on}	Turn-On Time	I _C = 3A, I _{B1} = I _{B2} = 30mA; R _L = 20 Ω, t _p = 20 μ s; Duty Cycle ≤2.0%			1.5	μ s
t _{stg}	Storage Time				12	μ s
t _f	Fall Time				6.0	μ s

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