

isc Silicon NPN Darlington Power Transistor

2SD970

DESCRIPTION

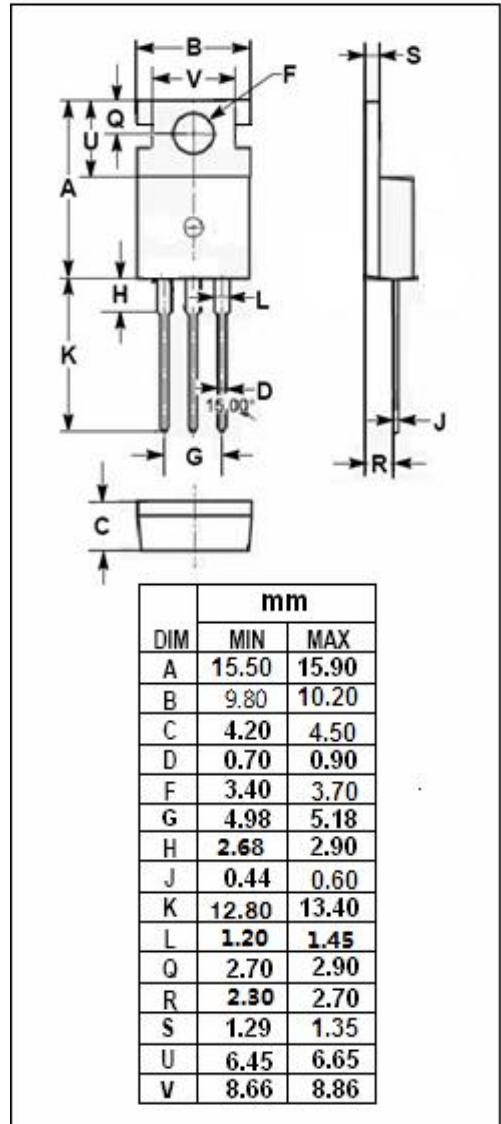
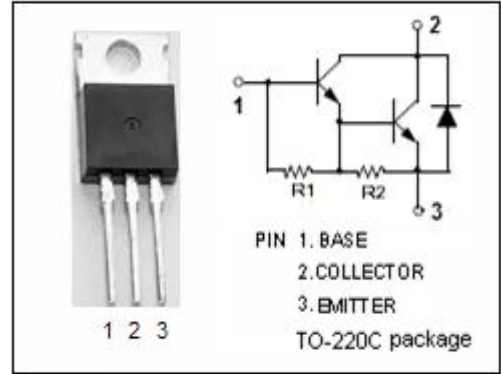
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 120V(\text{Min})$
- High DC Current Gain
: $h_{FE} = 1000(\text{Min}) @ I_C = 4A$
- Low Saturation Voltage
- Complement to Type 2SB791
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for medium speed and power switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	120	V
V_{CEO}	Collector-Emitter Voltage	120	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	8	A
I_{CP}	Collector Current-Peak	12	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	40	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



isc Silicon NPN Darlington Power Transistor**2SD970****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 = 25mA; R _{BE} = ∞	120			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 5mA; I _C = 0	7			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 4A; I _B = 8mA			1.5	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 8A; I _B = 80mA			3.0	V
V _{BE(sat)-1}	Base-Emitter Saturation Voltage	I _C = 4A; I _B = 8mA			2.0	V
V _{BE(sat)-2}	Base-Emitter Saturation Voltage	I _C = 8A; I _B = 80mA			2.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 120V; I _E = 0			100	μ A
I _{CEO}	Collector Cutoff Current	V _{CE} = 100V; R _{BE} = ∞			10	μ A
h _{FE}	DC Current Gain	I _C = 4A ; V _{CE} = 3V	1000		20000	

Switching times

t _{on}	Turn-on Time	I _C = 4A , I _{B1} = I _{B2} = 8mA		0.4		μ s
t _{stg}	Storage Time			5.4		μ s
t _f	Fall Time			1.1		μ s

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