

**isc Silicon NPN Darlington Power Transistor**

**2SD1071**

**DESCRIPTION**

- Low Collector Saturation Voltage
- High DC Current Gain
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

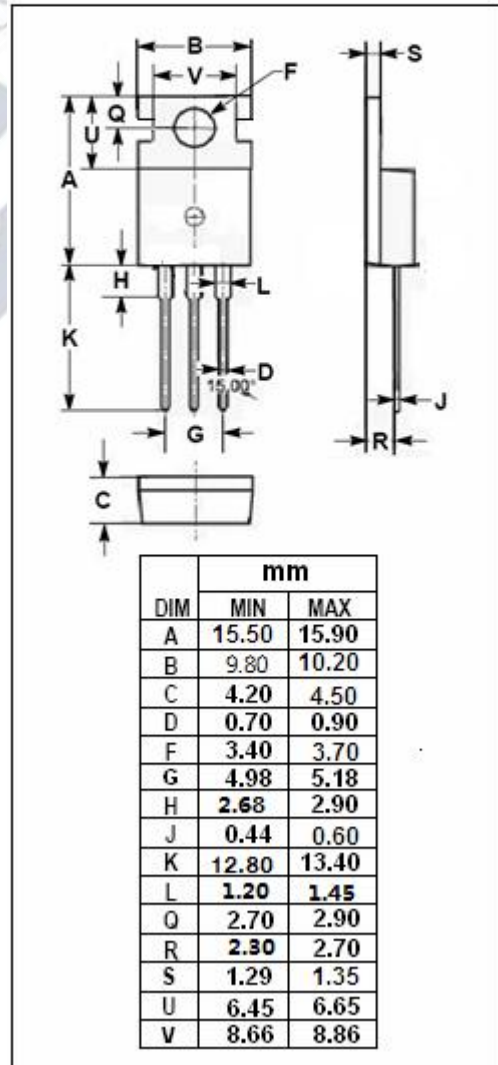
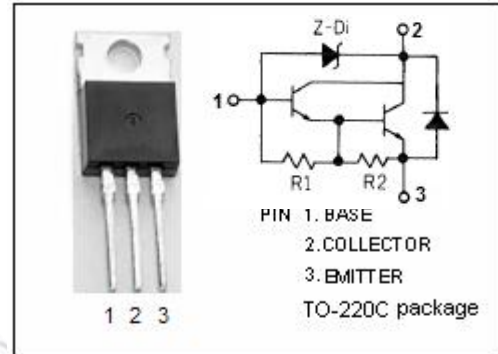
- Audio power amplifiers
- Relay & solenoid drivers
- Motor controls
- General purpose power amplifiers
- Including zener diode

**ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)**

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CB0</sub>	Collector-Base Voltage	450	V
V <sub>CEO(SUS)</sub>	Collector-Emitter Voltage	300	V
V <sub>EBO</sub>	Emitter-Base Voltage	6	V
V <sub>Z</sub>	Zener Voltage	300	V
I <sub>C</sub>	Collector Current-Continuous	6	A
I <sub>B</sub>	Base Current-Continuous	2.5	A
P <sub>C</sub>	Collector Power Dissipation @ T <sub>C</sub> =25°C	40	W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature Range	-40~150	°C

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th j-c</sub>	Thermal Resistance, Junction to Case	3.0	°C/W



**isc Silicon NPN Darlington Power Transistor****2SD1071****ELECTRICAL CHARACTERISTICS****T<sub>c</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>Z</sub>	Zener Voltage	I <sub>Z</sub> = 0.1mA	300		450	V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 150mA; I <sub>C</sub> = 0	6			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 4A; I <sub>B</sub> = 15mA			1.5	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 4A; I <sub>B</sub> = 15mA			2.0	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 300V; I <sub>E</sub> = 0			0.1	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 6V; I <sub>C</sub> =0			150	mA
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 4A; V <sub>CE</sub> = 2V	500			