

## Silicon NPN Darlington Power Transistor

### DESCRIPTION

- Low Collector Saturation Voltage
- High DC Current Gain
- High Reliability

### APPLICATIONS

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

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

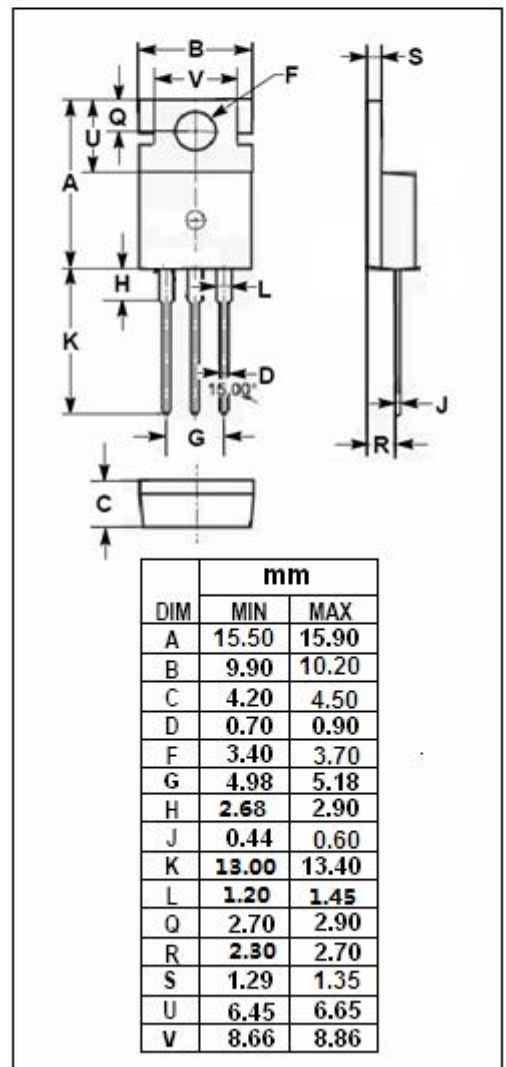
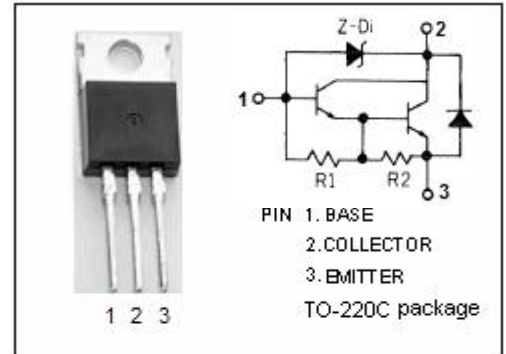
SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	450	V
$V_{CEO(SUS)}$	Collector-Emitter Voltage	300	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$V_Z$	Zener Voltage	300	V
$I_C$	Collector Current-Continuous	6	A
$I_B$	Base Current-Continuous	2.5	A
$P_C$	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	40	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-40~150	$^\circ\text{C}$

### THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	3.0	$^\circ\text{C}/\text{W}$

### Ordering Information

Product	Package	Packaging
2SD1071T1TL	TO-220C	Tube





## ELECTRICAL CHARACTERISTICS

$T_c=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_Z$	Zener Voltage	$I_Z= 0.1\text{mA}$	300		450	V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E= 5\text{mA}; I_C= 0$	6			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C= 4\text{A}; I_B= 15\text{mA}$			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C= 4\text{A}; I_B= 15\text{mA}$			2.0	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}= 300\text{V}; I_E= 0$			0.1	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}= 6\text{V}; I_C= 0$			5	mA
$h_{FE}$	DC Current Gain	$I_C= 4\text{A}; V_{CE}= 2\text{V}$	500			