

isc Silicon NPN Darlington Power Transistor

2SD972

DESCRIPTION

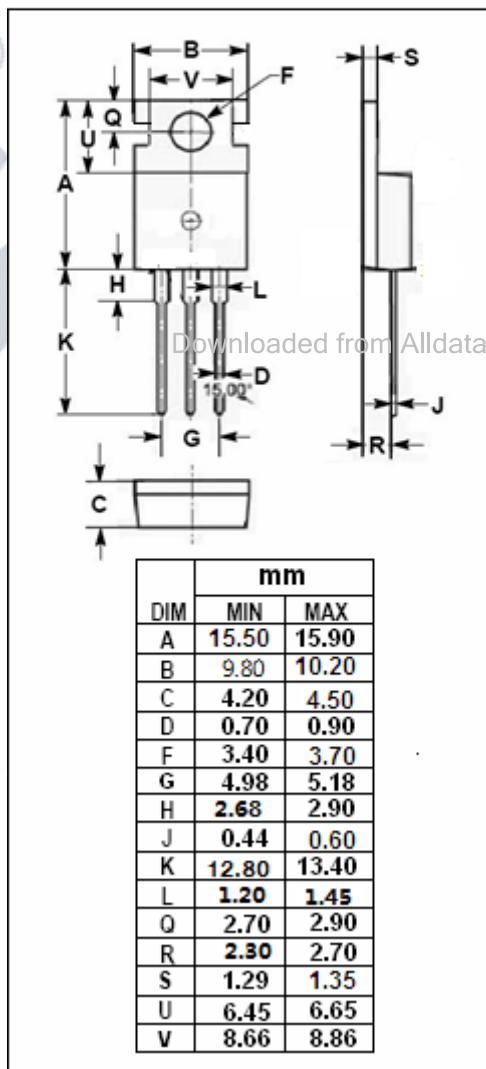
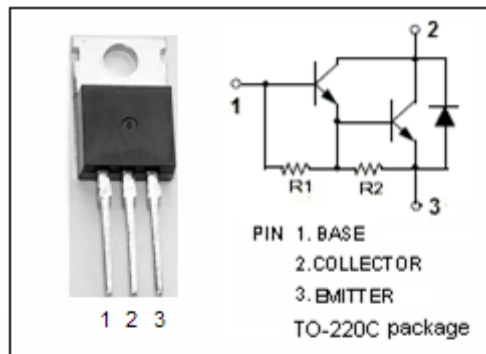
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 50V(\text{Min})$
- High DC Current Gain
- High Switching Speed
- Wide Area of Safe Operation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for hammer drivers, audio amplifiers applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	4	A
I_{CP}	Collector Current-Peak	6	A
I_B	Base Current	0.2	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	30	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**2SD972****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = 30\text{mA}; I_B = 0$	50			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = 2\text{A}; I_B = 8\text{mA}$			1.8	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = 4\text{A}; I_B = 40\text{mA}$			2.5	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	$I_C = 2\text{A}; I_B = 8\text{mA}$			2.2	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	$I_C = 4\text{A}; I_B = 40\text{mA}$			3.0	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = 50\text{V}; I_E = 0$			0.1	mA
I_{CEO}	Collector Cutoff Current	$V_{CE} = 50\text{V}; I_B = 0$			0.5	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 5\text{V}; I_C = 0$			5	mA
h_{FE-1}	DC Current Gain	$I_C = 1\text{A}; V_{CE} = 4\text{V}$	2000			
h_{FE-2}	DC Current Gain	$I_C = 3\text{A}; V_{CE} = 4\text{V}$	1000		20000	