

**isc Silicon NPN Darlington Power Transistor**
**2SD1124**
**DESCRIPTION**

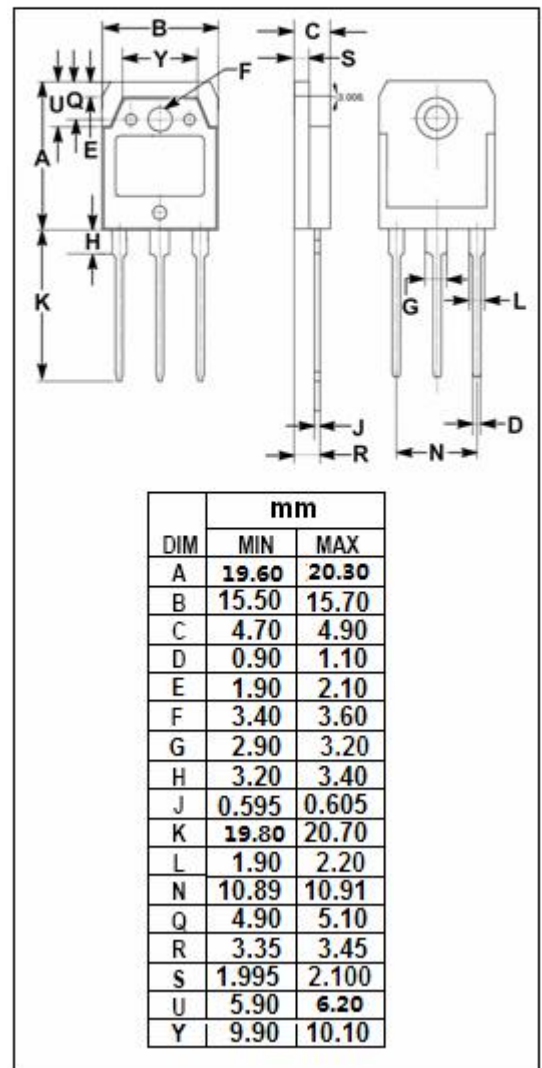
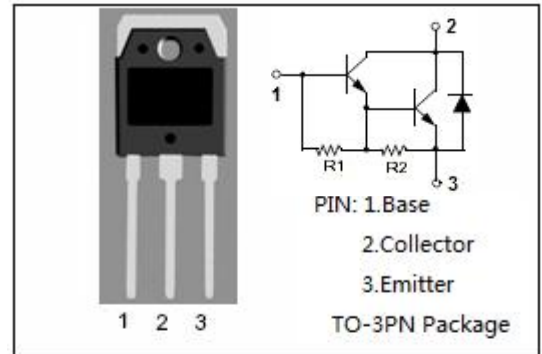
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = 80V(\text{Min})$
- High DC Current Gain  
:  $h_{FE} = 1000(\text{Min}) @ I_C = 1A$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for general-purpose amplifier and low-speed switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	80	V
$V_{CEO}$	Collector-Emitter Voltage	80	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current-Continuous	8	A
$I_{CM}$	Collector Current-Peak	12	A
$P_C$	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	80	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



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**ELECTRICAL CHARACTERISTICS**

 T<sub>c</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 5mA; I <sub>C</sub> = 0	6			V
V <sub>(BR)CBO</sub>	Collector - Base Breakdown Voltage	I <sub>C</sub> = 0.1mA; I <sub>E</sub> = 0	80			V
V <sub>CEQ(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = 30mA; I <sub>B</sub> = 0	80			V
V <sub>CE(sat)-1</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 4A; I <sub>B</sub> = 16mA			2.0	V
V <sub>CE(sat)-2</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 6A, I <sub>B</sub> = 30mA			3.0	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	I <sub>C</sub> = 4A; V <sub>CE</sub> = 4V			2.5	V
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = 80V; I <sub>B</sub> = 0			0.1	mA
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 80V; I <sub>E</sub> = 0			0.1	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			5.0	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 1A; V <sub>CE</sub> = 4V	1000			
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 4A; V <sub>CE</sub> = 4V	500			

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