

**isc Silicon PNP Darlington Power Transistor**
**2SB1559**
**DESCRIPTION**

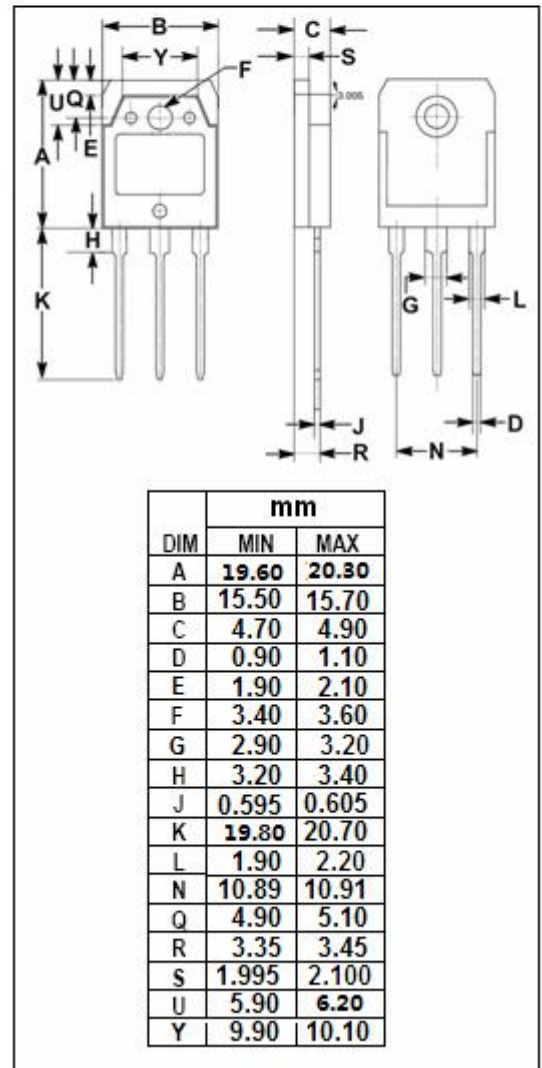
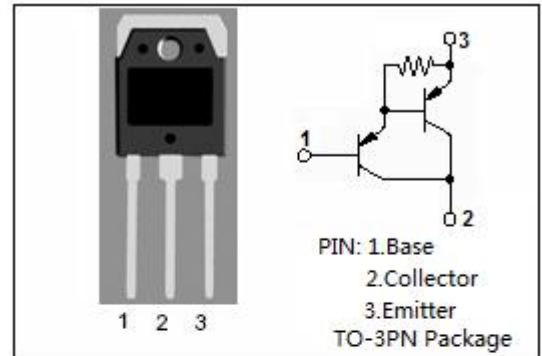
- High DC Current Gain-  
:  $h_{FE} = 5000(\text{Min}) @ I_C = -6\text{A}$
- Low-Collector Saturation Voltage-  
:  $V_{CE(\text{sat})} = -2.5\text{V}(\text{Max.}) @ I_C = -6\text{A}$
- Complement to Type 2SD2389
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Designed for audio, series regulator and general purpose applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-160	V
$V_{CEO}$	Collector-Emitter Voltage	-150	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current-Continuous	-8	A
$I_B$	Base Current- Continuous	-1	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)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = -30mA; I <sub>B</sub> = 0	-150			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -6A; I <sub>B</sub> = -6mA			-2.5	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = -6A; I <sub>B</sub> = -6mA			-3.0	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = -160V; I <sub>E</sub> = 0			-100	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = -5V; I <sub>C</sub> = 0			-100	μ A
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = -6A; V <sub>CE</sub> = -4V	5000		30000	
C <sub>OB</sub>	Collector Output Capacitance	I <sub>E</sub> = 0; V <sub>CB</sub> = -10V; f= 1MHz		160		pF
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>E</sub> = 1A; V <sub>CE</sub> = -12V		65		MHz

**◆ h<sub>FE</sub> Classifications**

O	P	Y
5000-12000	6500-20000	15000-30000

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