

isc Silicon NPN Darlington Power Transistor
2SD1559
DESCRIPTION

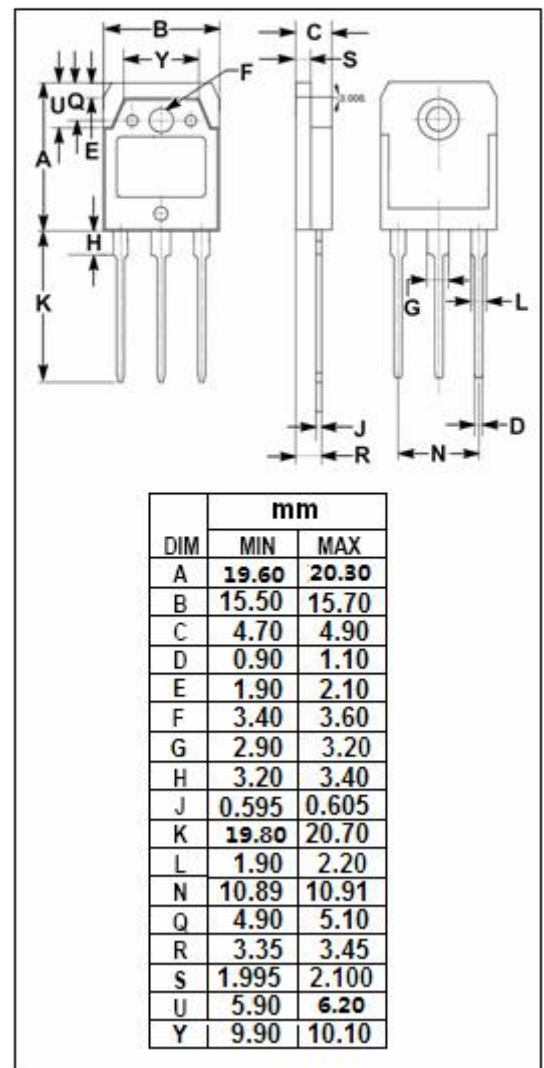
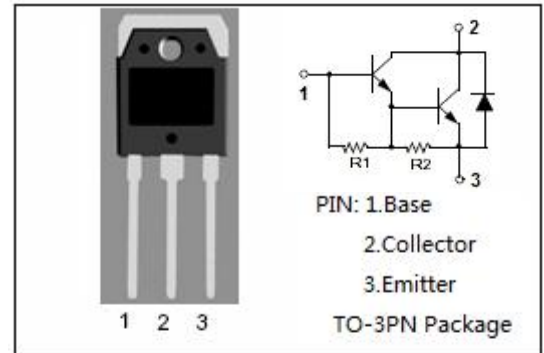
- High DC Current Gain
: $h_{FE} = 1000(\text{Min.}) @ I_C = 10A, V_{CE} = 3V$
- High Collector-Emitter Sustaining Voltage-
: $V_{CEO(\text{SUS})} = 100V(\text{Min})$
- Complement to Type 2SB1079
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for low frequency power amplifier applications.


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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	20	A
I_{CM}	Collector Current-Peak	30	A
I_B	Base Current- Continuous	3	A
P_C	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	100	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_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 50mA, R _{BE} = ∞	100			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = 0.1mA, I _E = 0	100			V
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 25mA, R _{BE} = ∞	100			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage 	I _E = 5mA, I _C = 0	7			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 10A, I _B = 20mA			2.0	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 20A, I _B = 200mA			3.0	V
V _{BE(sat)-1}	Base-Emitter Saturation Voltage	I _C = 10A, I _B = 20mA			2.5	V
V _{BE(sat)-2}	Base-Emitter Saturation Voltage	I _C = 20A, I _B = 200mA			3.5	V
I _{CBO}	Collector Cutoff current	V _{CB} = 100V, I _E = 0			0.1	mA
I _{CEO}	Collector Cutoff current	V _{CE} = 80V, R _{BE} = ∞			1.0	mA
h _{FE}	DC Current Gain	I _C = 10A ; V _{CE} = 3V	1000		20000	

Switching Times

t _{on}	Turn-On Time	I _C = 10A, I _{B1} = I _{B2} = 20mA		1.0		μ s
t _{stg}	Storage Time			9.0		μ s
t _f	Fall Time			3.0		μ s

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