

isc Silicon PNP Darlington Power Transistor
2SB1103
DESCRIPTION

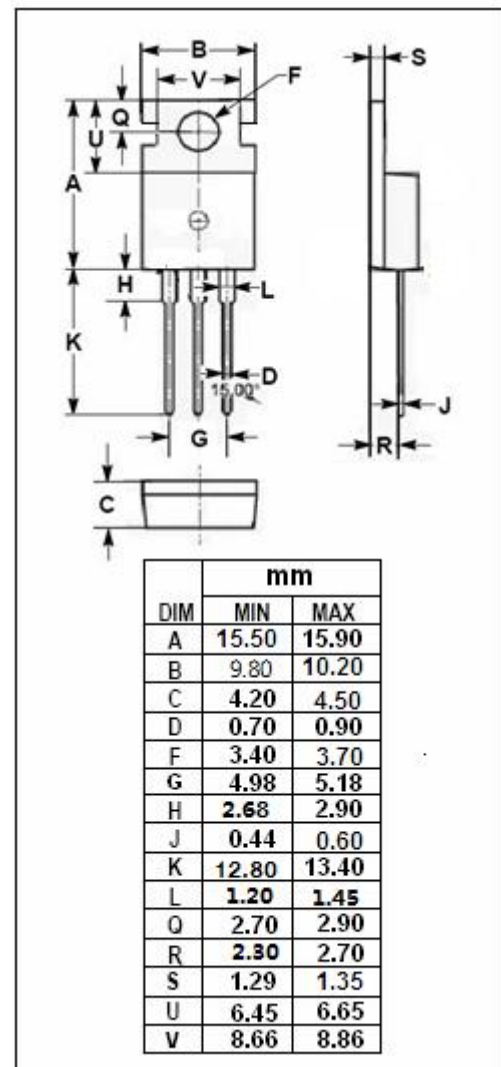
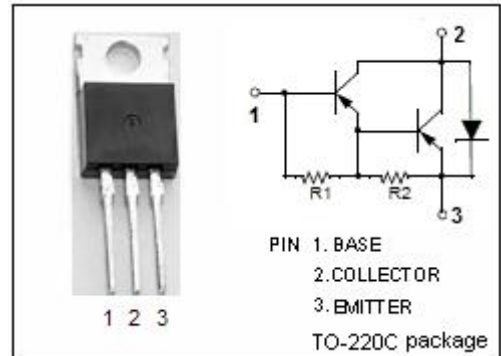
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = -60V(\text{Min})$
- High DC Current Gain-
: $h_{FE} = 1000(\text{Min})@ (V_{CE} = -3V, I_C = -4A)$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for low frequency power amplifiers applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-7	V
I_C	Collector Current-Continuous	-8	A
I_{CM}	Collector Current-Peak	-12	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	40	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

T_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = -25mA; R _{BE} = ∞	-60			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 = -4A; I _B = -8mA			-1.5	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = -8A; I _B = -80mA			-3.0	V
V _{BE(sat)-1}	Base-Emitter Saturation Voltage	I _C = -4A; I _B = -8mA			-2.0	V
V _{BE(sat)-2}	Base-Emitter Saturation Voltage	I _C = -8A; I _B = -80mA			-3.5	V
I _{CB0}	Collector Cutoff Current	V _{CB} = -60V; I _E = 0			-100	μ A
I _{CEO}	Collector Cutoff Current	V _{CE} = -50V; R _{BE} = ∞			-10	μ A
h _{FE}	DC Current Gain	I _C = -4A; V _{CE} = -3V	1000		20000	
V _{ECF}	C-E Diode Forward Voltage	I _F = 8A			3.0	V

Switching Times

t _{on}	Turn-on Time			0.5		μ s
t _{stg}	Storage Time	I _C = -4A, I _{B1} = -I _{B2} = -8mA		3.0		μ s
t _f	Fall Time			1.0		μ s

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