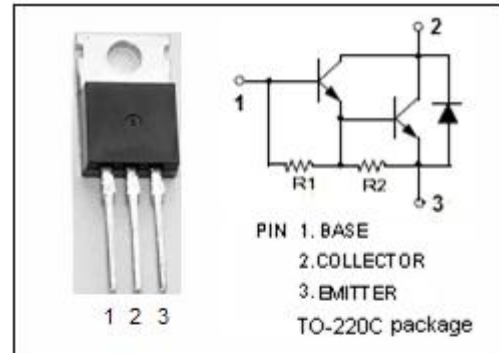


isc Silicon NPN Darlington Power Transistor
2SD1031
DESCRIPTION

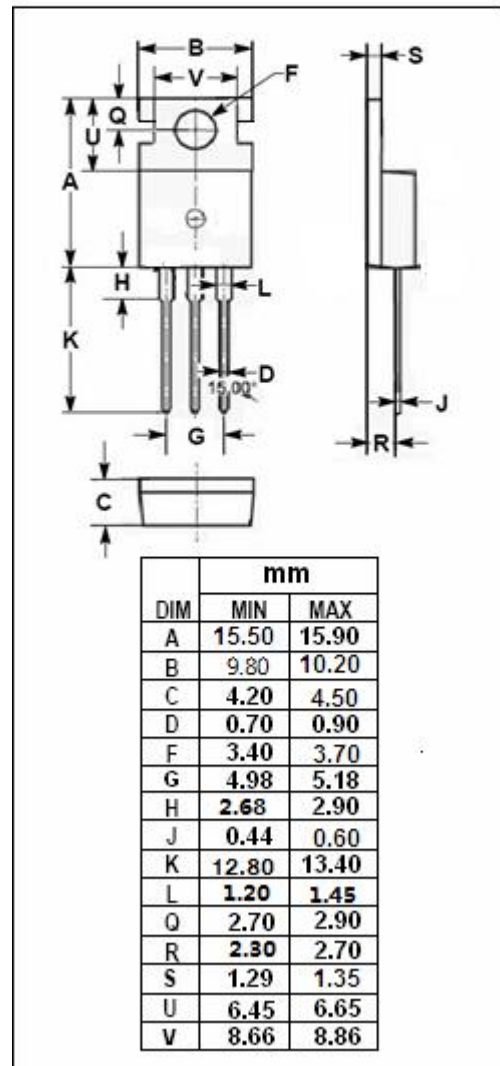
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 120V(\text{Min})$
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 2.0V(\text{Max}) @ I_C = 4A$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation


APPLICATIONS

- Designed for power amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	120	V
V_{CEO}	Collector-Emitter Voltage	120	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	6	A
I_{CM}	Collector Current-Peak	10	A
P_C	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	50	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~150	$^\circ\text{C}$



isc Silicon NPN Darlington Power Transistor

2SD1031

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 = 10mA; I _B = 0	120			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = 100 μ A; I _E = 0	120			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 4A; I _B = 16mA			2.0	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = 4A; V _{CE} = 4V			2.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 120V; I _E = 0			100	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			5	mA
h _{FE1}	DC Current Gain	I _C = 1A; V _{CE} = 2.2V	500			
h _{FE2}	DC Current Gain	I _C = 4A; V _{CE} = 2.2V	1000		20000	
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V; f _{test} = 1MHz		100		pF
f _T	Current-Gain—Bandwidth Product	I _E = 0.5A; V _{CE} = 10V; f _{test} = 10MHz		40		MHz

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