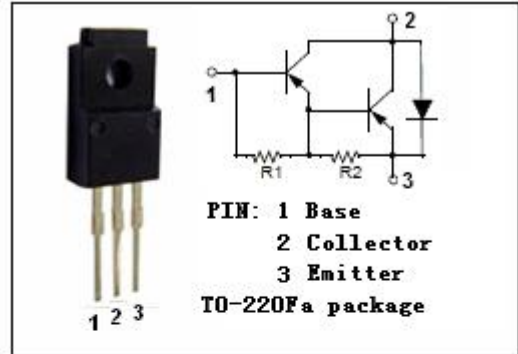


**isc Silicon PNP Darlington Power Transistor**
**2SB1193**
**DESCRIPTION**

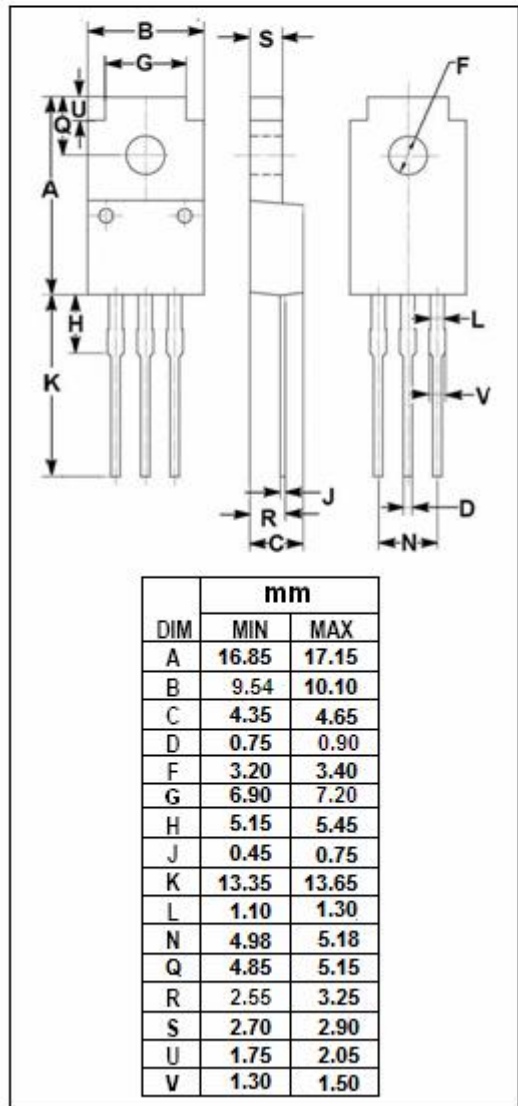
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(SUS)} = -120V(\text{Min})$
- High DC Current Gain-  
:  $h_{FE} = 1000(\text{Min})@ (V_{CE} = -3V, I_C = -4A)$
- Complement to Type 2SD1773
- Minimum Lot-to-Lot variations for robust device performance and reliable operation


**APPLICATIONS**

- Designed for medium -speed power switching 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	-7	V
$I_C$	Collector Current-Continuous	-8	A
$I_{CM}$	Collector Current-Peak	-12	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	$^\circ\text{C}$



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2SB1193

## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(SUS)</sub>	Collector-Emitter Sustaining Voltage	I <sub>C</sub> = -30mA; I <sub>B</sub> = 0	-120			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = -5mA; I <sub>C</sub> = 0	-7			V
V <sub>CE(sat)-1</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -4A; I <sub>B</sub> = -8mA			-1.5	V
V <sub>CE(sat)-2</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -8A; I <sub>B</sub> = -80mA			-3.0	V
V <sub>BE(sat)-1</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = -4A; I <sub>B</sub> = -8mA			-2.0	V
V <sub>BE(sat)-2</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = -8A; I <sub>B</sub> = -80mA			-3.5	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = -120V; I <sub>E</sub> = 0			-100	μ A
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = -100V; I <sub>B</sub> = 0			-10	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = -7V; I <sub>C</sub> = 0			-5	mA
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = -4A; V <sub>CE</sub> = -3V	1000		20000	
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = -0.5A; V <sub>CE</sub> = -10V		15		MHz

## Switching Times

t <sub>on</sub>	Turn-on Time			0.7		μ s
t <sub>stg</sub>	Storage Time	I <sub>C</sub> = -4A, I <sub>B1</sub> = -I <sub>B2</sub> = -8mA, V <sub>CC</sub> = -50V		3.5		μ s
t <sub>f</sub>	Fall Time			2.0		μ s

**isc Silicon PNP Darlington Power Transistor****2SB1193****NOTICE:**

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