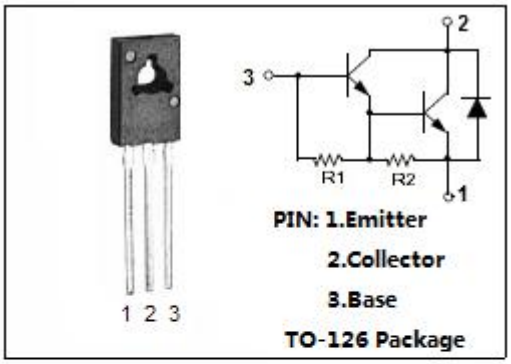
isc Silicon NPN Darlington Power Transistor 2SD1509

DESCRIPTION

- High DC Current Gain-
  : h_{FE} = 2000(Min)@ I_C= 1A
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = 80V(Min)
- Low Collector-Emitter Saturation Voltage-
  : $V_{CE(sat)}$ = 1.5V(Max)@ I_C=1A
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

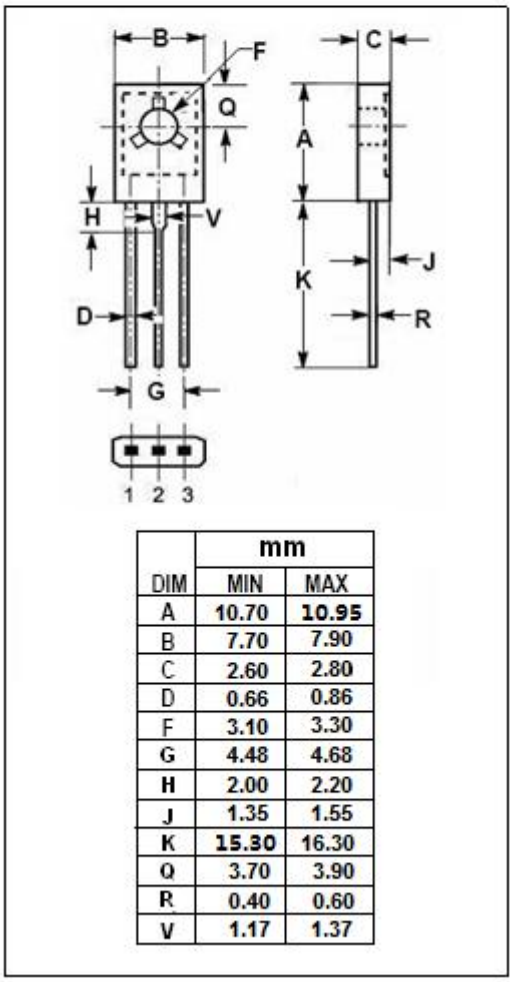
- Designed for general purpose amplifier and low speed switching applications.

ABSOLUTE MAXIMUM RATINGS (T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	8	V
I_C	Collector Current-Continuous	2	A
I_{CM}	Collector Current-Peak	4	A
I_B	Base Current	0.5	A
P_C	Collector Power Dissipation T_C=25℃	10	W
	Collector Power Dissipation T_a=25℃	1.5	
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	2.5	℃/W
$R_{th\ j\text{-}a}$	Thermal Resistance,Junction to Ambient	62.5	℃/W



DIM	mm MIN	MAX
A	10.70	10.95
B	7.70	7.90
C	2.60	2.80
D	0.66	0.86
F	3.10	3.30
G	4.48	4.68
H	2.00	2.20
J	1.35	1.55
K	15.30	16.30
Q	3.70	3.90
R	0.40	0.60
V	1.17	1.37

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 30mA, I_B= 0	80			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 1A, I_B= 1mA			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 1A, I_B= 1mA			2.0	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 80V, I_E= 0			10	uA
I_{EBO}	Emitter Cutoff Current	V_{EB}=8V; I_C= 0			4.0	mA
h_{FE-1}	DC Current Gain	I_C= 1A; V_{CE}= 2V	2000			