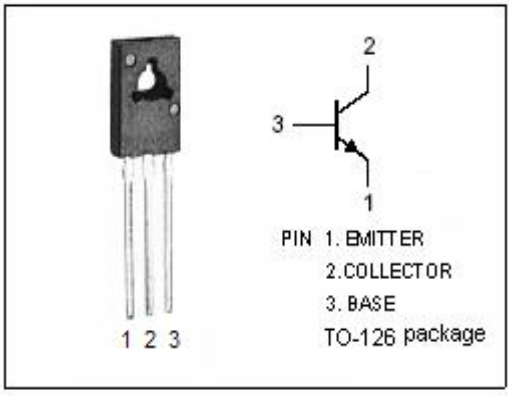
isc Silicon NPN Power Transistor — 2SD1803

DESCRIPTION

- High Collector Current-I_C= 5.0A
- Low Saturation Voltage -
  : $V_{CE(sat)}$= 0.4V(Max)@ I_C= 3.0A, I_B= 0.15A
- Good Linearity of h_{FE}
- Complement to Type 2SB1203
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

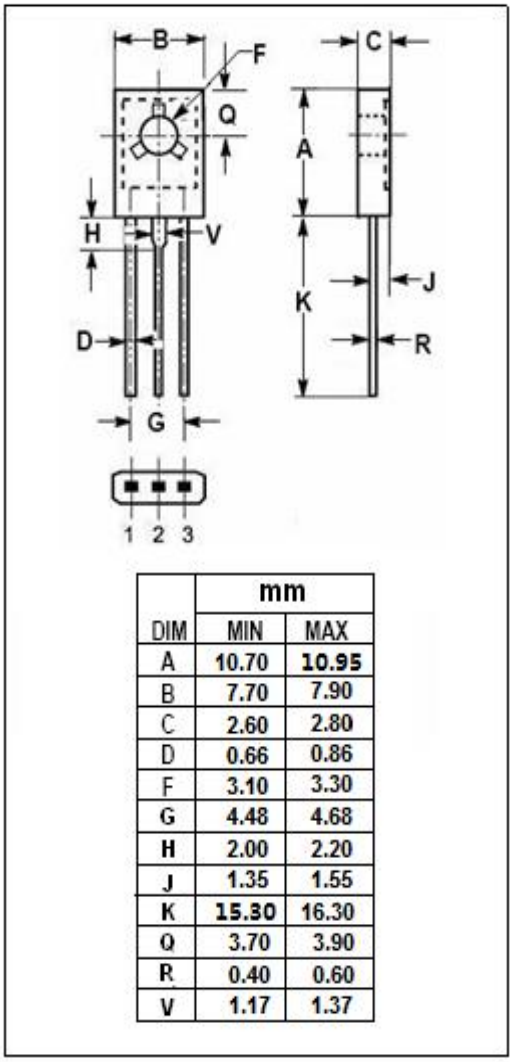


APPLICATIONS

- Relay drivers,high-speed inverters,converters, and other general high-current switching applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	5.0	A
I_{CP}	Collector Current-Pulse	8.0	A
P_C	Collector Power Dissipation @ T_a=25℃	1.0	W
	Collector Power Dissipation @ T_C=25℃	20	
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



DIM	mm MIN	mm 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
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 3.0A; I_B= 0.15A			0.4	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 3.0A; I_B= 0.15A			1.3	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 40V; I_E= 0			1.0	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 4V; I_C= 0			1.0	μA
h_{FE-1}	DC Current Gain	I_C= 0.5A ; V_{CE}= 2V	70		400	
h_{FE-2}	DC Current Gain	I_C= 4A ; V_{CE}= 2V	35			
f_T	Current-Gain—Bandwidth Product	I_C= 1A ; V_{CE}= 5V		130		MHz
C_{OB}	Output Capacitance	I_E= 0 ; V_{CB}= 10V,f_{test}= 1MHz		40		pF

◆ **h_{FE-1} Classifications**

Q	R	S	T
70-140	100-200	140-280	200-400