

isc Silicon NPN Power Transistor

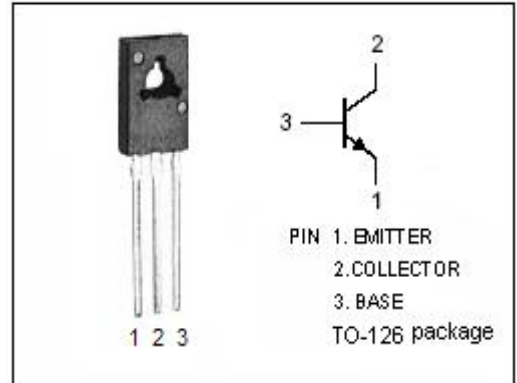
2SD1803

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

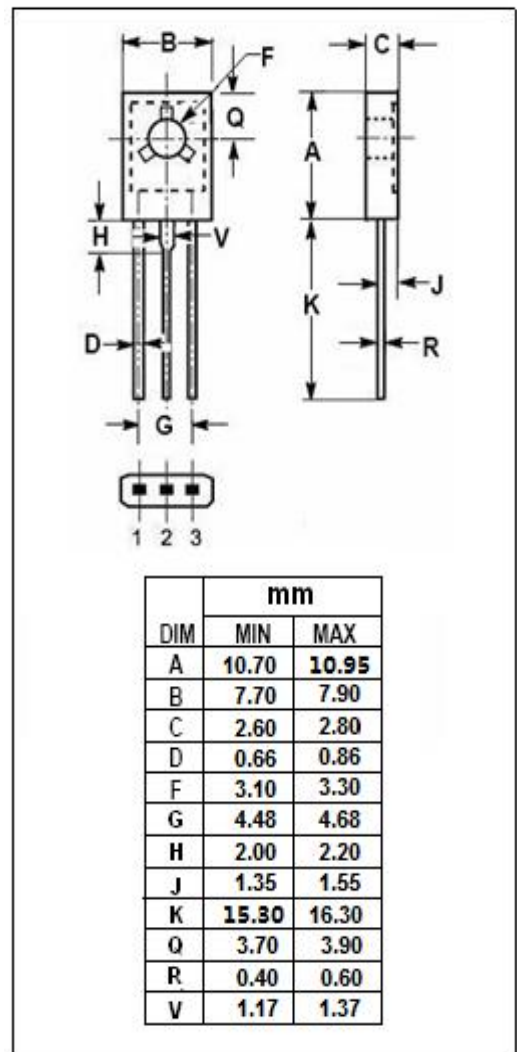
APPLICATIONS

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



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

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 @ $T_a = 25^\circ C$	1.0	W
	Collector Power Dissipation @ $T_c = 25^\circ C$	20	
T_J	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-55~150	$^\circ C$



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ELECTRICAL CHARACTERISTICS

T_C=25°C 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	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 4V; I _C = 0			1.0	μ A
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

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