

isc Silicon NPN Power Transistor
2SD2000
DESCRIPTION

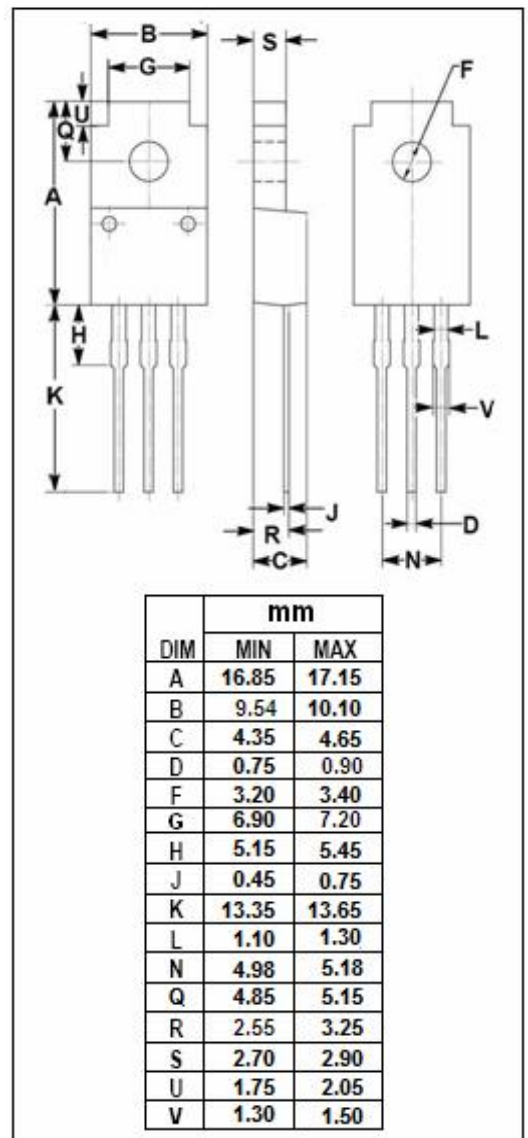
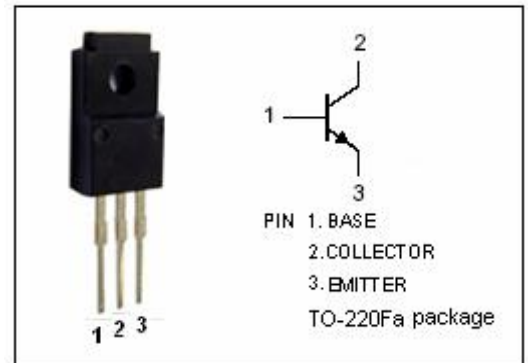
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 60V(\text{Min.})$
- High Speed Switching
- Good Linearity of h_{FE}
- High Collector Power Dissipation
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for power switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	4	A
I_B	Base Current- Continuous	1	A
P_C	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	35	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

T_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 25mA; I _B = 0	60			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 4A; I _B = 0.4A			1.5	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = 4A; V _{CE} = 4V			2.0	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 80V; I _E = 0			100	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 6V; I _C = 0			100	μ A
h _{FE-1}	DC Current Gain	I _C = 1A; V _{CE} = 4V	70		250	
h _{FE-2}	DC Current Gain	I _C = 4A; V _{CE} = 4V	20			
f _T	Current-Gain—Bandwidth Product	I _C = 0.2A; V _{CE} = 12V; f= 10MHz		80		MHz

Switching Times

t _{on}	Turn-on Time	V _{CC} = 50V, I _C = 4A; I _{B1} = I _{B2} = 0.4A		0.3		μ s
t _{stg}	Storage Time			1.0		μ s
t _f	Fall Time			0.2		μ s

◆ h_{FE-1} Classifications

Q	P
70-150	120-250

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