

isc Silicon NPN Power Transistor
2SC3170
DESCRIPTION

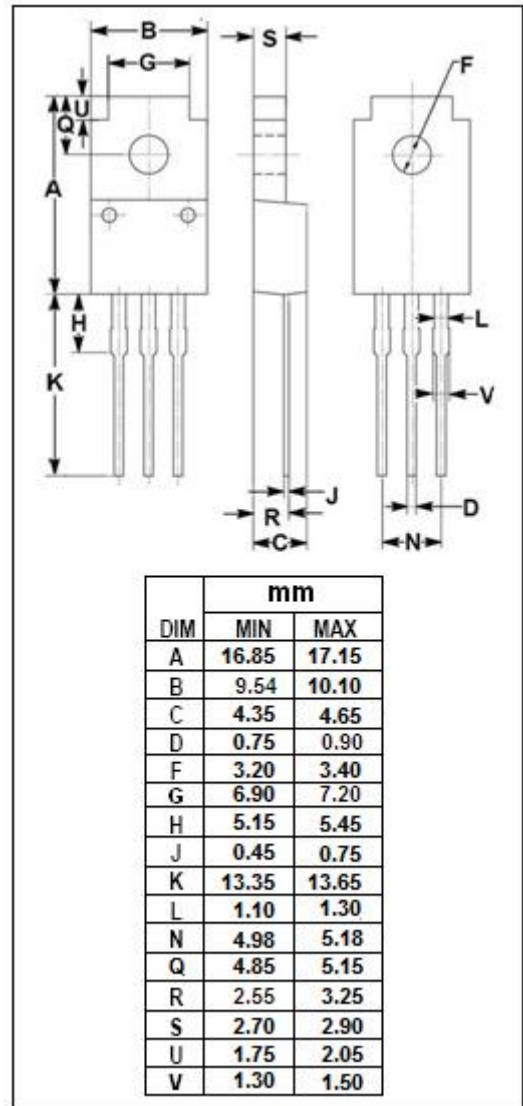
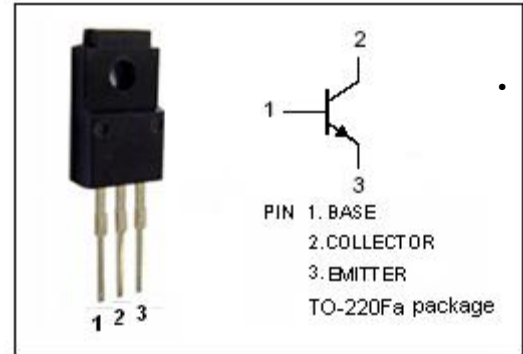
- Collector-Emitter Sustaining Voltage-
: $V_{CE(SUS)} = 400V(\text{Min.})$
- Low Collector Saturation Voltage
: $V_{CE(sat)} = 1.0V(\text{Max.}) @ I_C = 3A$
- High Speed Switching
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for high speed switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	500	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	7	A
I_{CM}	Collector Current-Peak	15	A
P_C	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	40	
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 _{CE(SUS)}	Collector-Emitter Sustaining Voltage	I _C =20mA; I _B =	400			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 3A; I _B = 0.6A			1.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 3A; I _B = 0.6A			1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 500V; I _E = 0			0.1	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			0.1	mA
h _{FE-1}	DC Current Gain	I _C = 0.1A; V _{CE} = 5V	15			
h _{FE-2}	DC Current Gain	I _C = 3A; V _{CE} = 5V	8			
f _T	Current-Gain—Bandwidth Product	I _C = 0.5A; V _{CE} = 10V		8		MHz

Switching Times; Resistive Load

t _{on}	Turn-on Time	I _C = 3A; I _{B1} = -I _{B2} = 0.6A; V _{CC} = 100V			1.0	μs
t _s	Storage Time				3.0	μs
t _f	Fall Time				1.0	μs

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