

isc Silicon NPN Power Transistor

2SC4596

DESCRIPTION

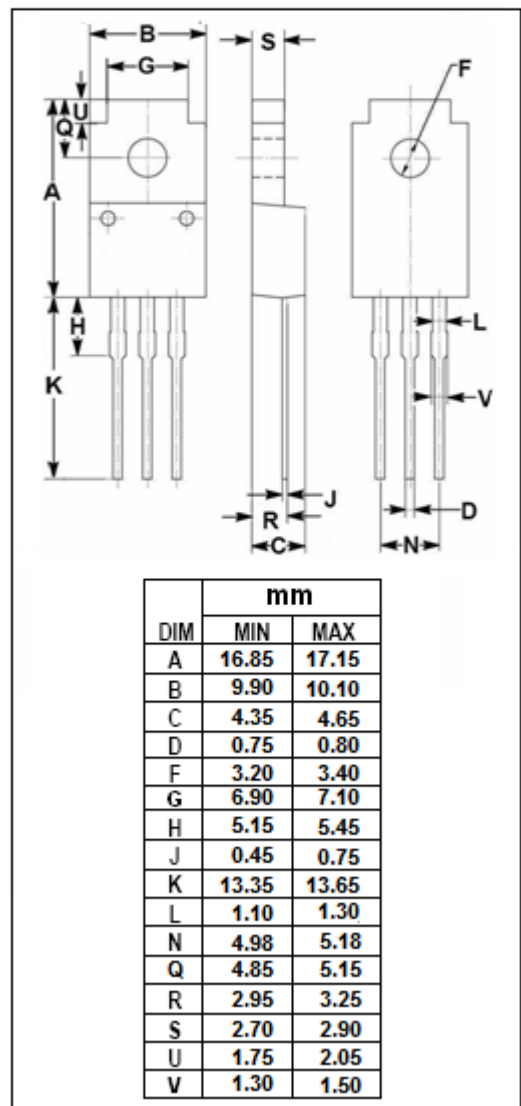
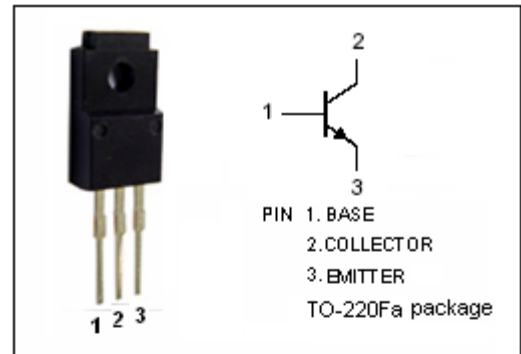
- Low Collector Saturation Voltage
: $V_{CE(sat)} = 0.3V(\text{Max}) @ I_C = 3A$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 60V (\text{Min})$
- Complement to Type 2SA1757

APPLICATIONS

- Designed for high speed and power switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	5	A
I_{CM}	Collector Current-Peak	10	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	25	W
	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	2	
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 _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 3A ; I _B = 0.3A, L= 1mH	60			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = 50 μ A; I _E = 0	100			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 50 μ A; I _C = 0	5			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 3A; I _B = 0.15A			0.3	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 4A; I _B = 0.2A			0.5	V
V _{BE(sat)-1}	Base-Emitter Saturation Voltage	I _C = 3A; I _B = 0.15A			1.2	V
V _{BE(sat)-2}	Base-Emitter Saturation Voltage	I _C = 4A; I _B = 0.2A			1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 100V; I _E = 0			10	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			10	μ A
h _{FE}	DC Current Gain	I _C = 1A ; V _{CE} = 2V	100		320	
f _T	Current-Gain—Bandwidth Product	I _C = 0.5A ; V _{CE} = 10V		120		MHz
C _{OB}	Output Capacitance	I _E =0; V _{CB} = 10V; f _{test} = 1.0MHz		80		pF

Switching times

t _{on}	Turn-on Time	I _C = 3A ; I _{B1} = -I _{B2} = 0.15A R _L = 10 Ω ; V _{CC} ≈ 30V			0.3	μ s
t _{stg}	Storage Time				1.5	μ s
t _f	Fall Time				0.3	μ s

◆ h_{FE} classifications

E	F
100-200	160-320