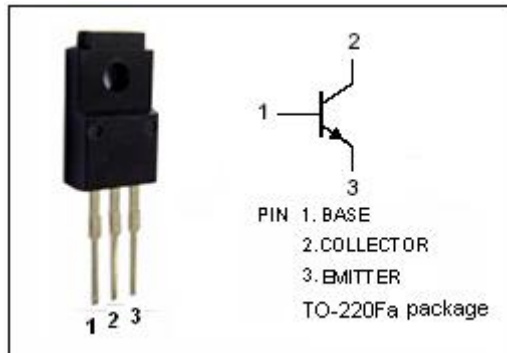


isc Silicon NPN Power Transistor
2SC3694
DESCRIPTION

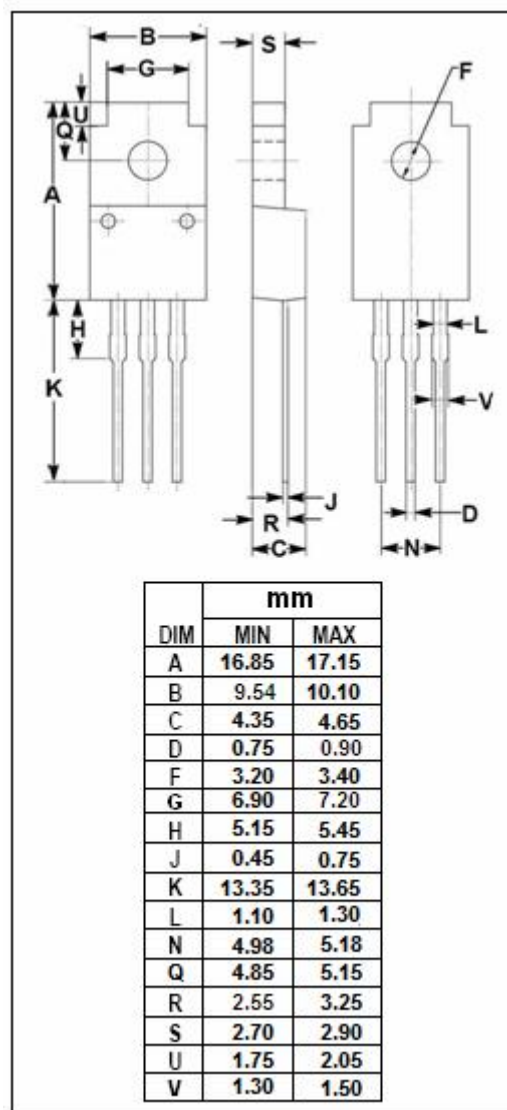
- Low Collector Saturation Voltage
: $V_{CE(sat)} = 0.5V(\text{Max}) @ I_C = 12A$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 60V (\text{Min})$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

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	7	V
I_C	Collector Current-Continuous	15	A
I_{CM}	Collector Current-Peak	30	A
I_B	Base Current-Continuous	7.5	A
P_C	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	30	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 _{CE0(SUS)}	Collector-Emitter Sustaining Voltage	I _C =50mA; I _B = 0	60			V
V _{CE(sat)-1}	Collector-Emitter Saturation Voltage	I _C = 8A; I _B = 0.4A			0.3	V
V _{CE(sat)-2}	Collector-Emitter Saturation Voltage	I _C = 12A; I _B = 0.6A			0.5	V
V _{BE(sat)-1}	Base-Emitter Saturation Voltage	I _C = 8A; I _B = 0.4A			1.2	V
V _{BE(sat)-2}	Base-Emitter Saturation Voltage	I _C = 12A; I _B = 0.6A			1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 60V; I _E = 0			10	μA
I _{CEX}	Collector Cutoff Current	V _{CE} = 60V; V _{BE} = -1.5V V _{CE} = 60V; V _{BE} = -1.5V; T _a =125°C			10 1.0	μA mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			10	μA
h _{FE-1}	DC Current Gain	I _C = 1.5A; V _{CE} = 2V	100			
h _{FE-2}	DC Current Gain	I _C = 3A; V _{CE} = 2V	100	200	400	
h _{FE-3}	DC Current Gain	I _C = 8A; V _{CE} = 2V	60			
f _T	Current-Gain—Bandwidth Product	I _C =1.5A; V _{CE} = 10V		120		MHz
C _{OB}	Output Capacitance	I _E =0; V _{CB} = 10V; f _{test} = 1.0MHz		180		pF
Switching times						
t _{on}	Turn-on Time	I _C = 8A; I _{B1} = -I _{B2} = 0.4A; R _L = 6.3 Ω; V _{CC} ≈ 50V			0.3	μs
t _{stg}	Storage Time				1.5	μs
t _f	Fall Time				0.3	μs

◆ h_{FE-2} classifications

M	L	K
100-200	150-300	200-400

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