

isc Silicon NPN Power Transistor
2SC3969
DESCRIPTION

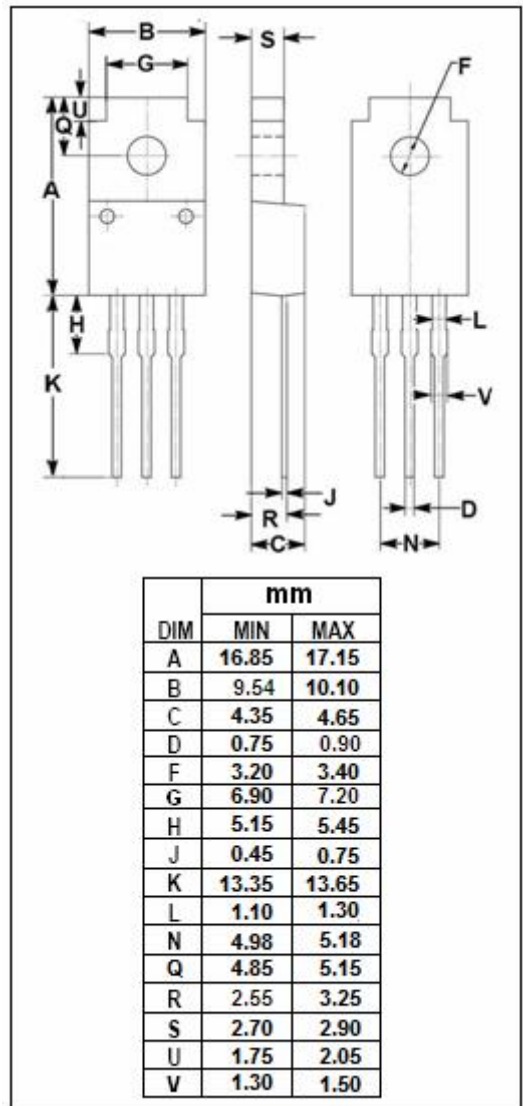
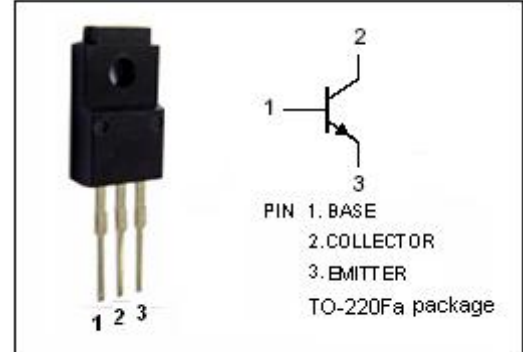
- Low Collector Saturation Voltage
- High Collector-Emitter Breakdown Voltage
: $V_{(BR)CEO} = 400V$ (Min)
- High Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for switching regulator applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	400	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	2	A
I_{CM}	Collector Current-Peak	4	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ C$	20	W
	Collector Power Dissipation @ $T_a = 25^\circ C$	2	
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 _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 10mA; I _B = 0	400			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = 50 μA; I _E = 0	400			V
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 1mA; I _B = 0	400			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 50 μA; I _C = 0	7			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 1A; I _B = 0.2A			1.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 1A; I _B = 0.2A			1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 400V; I _E = 0			10	μA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 7V; I _C = 0			10	μA
h _{FE}	DC Current Gain	I _C = 0.1A; V _{CE} = 5V	25		50	
f _T	Current-Gain—Bandwidth Product	I _E = -0.1A; V _{CE} = 10V		10		MHz
C _{OB}	Output Capacitance	I _E = 0; V _{CB} = 10V; f= 1.0MHz		30		pF

Switching times

t _{on}	Turn-on Time	I _C = 0.8A; I _{B1} = -I _{B2} = 0.08A; R _L = 250 Ω; V _{CC} ≈ 200V			1.0	μs
t _{stg}	Storage Time				2.5	μs
t _f	Fall Time				1.0	μs

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