

isc Silicon NPN Power Transistor

2SC3559

DESCRIPTION

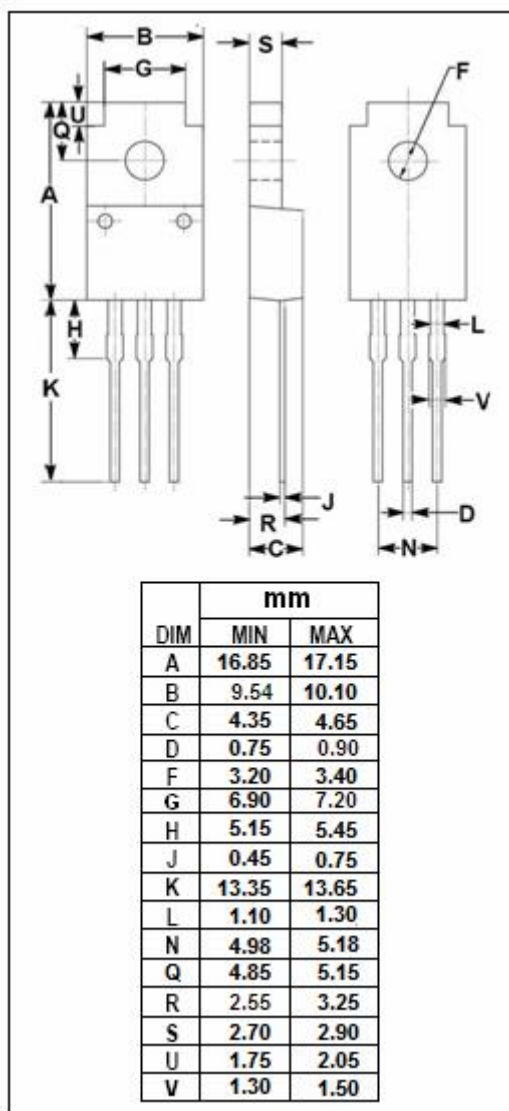
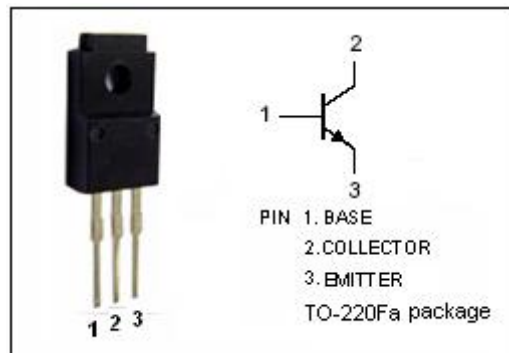
- High Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 800V$ (Min)
- High Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Switching regulator and high voltage switching applications.
- High speed DC-DC converter applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	900	V
V_{CEO}	Collector-Emitter Voltage	800	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	3	A
I_{CM}	Collector Current-Peak	5	A
I_B	Base Current-Continuous	1	A
P_C	Collector Power Dissipation @ $T_c=25^\circ C$	30	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 _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 10mA; I _B = 0	800			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = 1mA; I _E = 0	900			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 0.8A; I _B = 0.16A			0.6	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 0.8A; I _B = 0.16A			1.2	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 800V; I _E = 0			100	μA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 7V; I _C = 0			1	mA
h _{FE}	DC Current Gain	I _C = 0.8A; V _{CE} = 5V	10			

Switching times

t _r	Rise Time	I _{B1} = 0.08A; I _{B2} = -0.2A R _L = 500 Ω; V _{CC} ≈400V P _W =20 μs; Duty Cycle≤1%			1.0	μs
t _{stg}	Storage Time				4.0	μs
t _f	Fall Time				1.0	μs

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