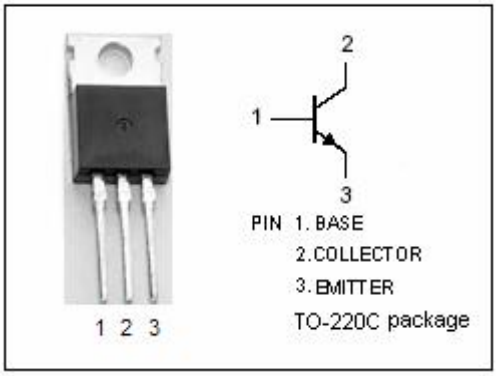
isc Silicon NPN Power Transistor — 2SC3968



DESCRIPTION

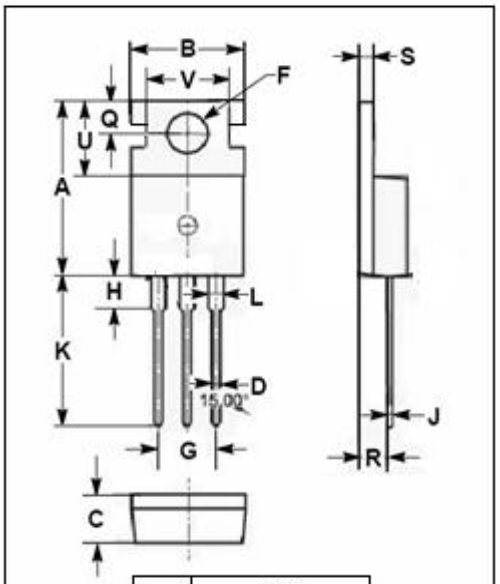
- Low Collector Saturation Voltage
- High Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 400V (Min)
- High Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for switching regulator applications

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

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℃	20	W
	Collector Power Dissipation @ T_a=25℃	2	
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



DIM	mm MIN	mm MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 30mA ; 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= 250Ω ;V_{CC}≈ 200V			1.0	μs
t_{stg}	Storage Time				2.5	μs
t_f	Fall Time				1.0	μs

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