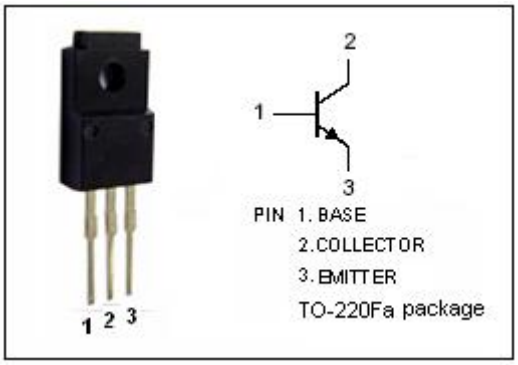
isc Silicon NPN Power Transistor — 2SC3692

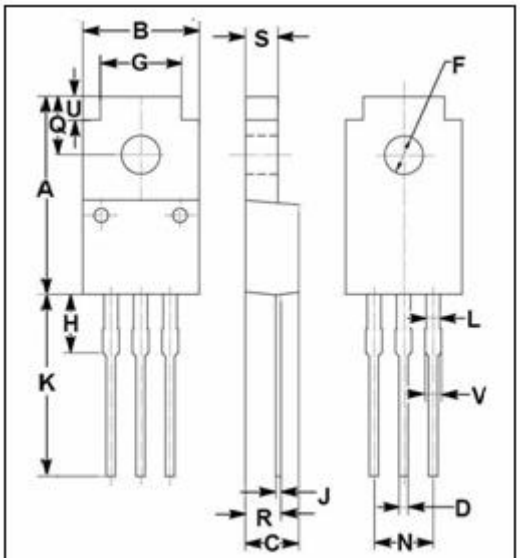


DESCRIPTION

- Low Collector Saturation Voltage
  : $V_{CE(sat)}$= 0.5V(Max)@ I_C= 6A
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= 60V (Min)
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for high speed and power switching applications



DIM	mm MIN	mm MAX
A	16.85	17.15
B	9.54	10.10
C	4.35	4.65
D	0.75	0.90
F	3.20	3.40
G	6.90	7.20
H	5.15	5.45
J	0.45	0.75
K	13.35	13.65
L	1.10	1.30
N	4.98	5.18
Q	4.85	5.15
R	2.55	3.25
S	2.70	2.90
U	1.75	2.05
V	1.30	1.50

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

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	7	A
I_{CM}	Collector Current-Peak	14	A
I_B	Base Current-Continuous	3.5	A
P_C	Collector Power Dissipation @ T_C=25℃	30	W
	Collector Power Dissipation @ T_a=25℃	2	
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

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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= 50mA ; I_B= 0	60			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 4A; I_B= 0.2A			0.3	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 6A; I_B= 0.3A			0.5	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	I_C= 4A; I_B= 0.2A			1.2	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	I_C= 6A; I_B= 0.3A			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 T_a=125℃			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= 0.7A; V_{CE}= 2V	100			
h_{FE-2}	DC Current Gain	I_C= 1.5A; V_{CE}= 2V	100	200	400	
h_{FE-3}	DC Current Gain	I_C= 4A; V_{CE}= 2V	60			
f_T	Current-Gain—Bandwidth Product	I_C=1A; V_{CE}= 10V		150		MHz
C_{OB}	Output Capacitance	I_E=0; V_{CB}= 10V; f_{test}= 1.0MHz		100		pF

Switching times

t_{on}	Turn-on Time	I_C= 4A; I_{B1}= -I_{B2}= 0.2A; R_L= 12.5Ω; 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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