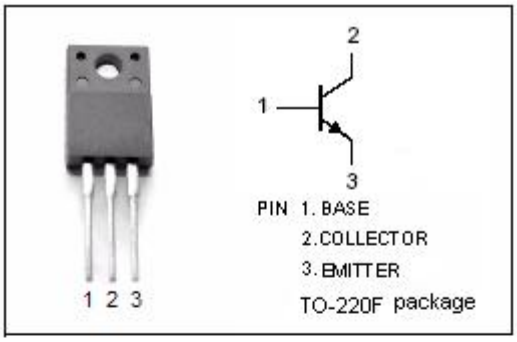
isc Silicon NPN Power Transistor — 2SC4549

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= 60V(Min)
- High DC Current Gain-
  : h_{FE}= 100(Min)@ (V_{CE}= 2V , I_C= 1A)
- Low Saturation Voltage-
  : $V_{CE(sat)}$= 0.3V(Max)@ (I_C= 3A, I_B= 0.15A)
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

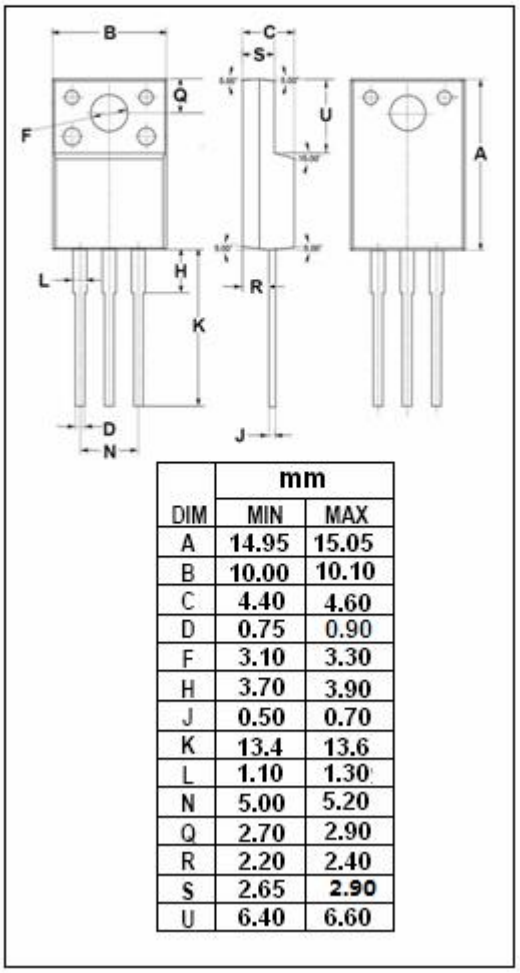


APPLICATIONS

- Designed for use as a driver in DC/DC converters and actuators.

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	7.0	V
I_C	Collector Current-Continuous	5.0	A
I_{CM}	Collector Current-Pulse	10	A
I_B	Base Current-Continuous	2.5	A
P_T	Total Power Dissipation @T_C=25℃	25	W
	Total Power Dissipation @T_a=25℃	2.0	
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~150	℃



DIM	mm MIN	MAX
A	14.95	15.05
B	10.00	10.10
C	4.40	4.60
D	0.75	0.90
F	3.10	3.30
H	3.70	3.90
J	0.50	0.70
K	13.4	13.6
L	1.10	1.30
N	5.00	5.20
Q	2.70	2.90
R	2.20	2.40
S	2.65	2.90
U	6.40	6.60

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ELECTRICAL CHARACTERISTICS

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 3.0A ; I_B= 0.3A, L= 1mH	60			V
$V_{CEX(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 3.0A ; I_{B1}= -I_{B2}= 0.3A, $V_{BE(OFF)}$=-1.5V, L=180μH,clamped	60			V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 3A; I_B= 0.15A			0.3	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 4A; I_B= 0.2A			0.5	V
$V_{BE(sat)-1}$	Base-Emitter Saturation Voltage	I_C= 3A; I_B= 0.15A			1.2	V
$V_{BE(sat)-2}$	Base-Emitter Saturation Voltage	I_C= 4A; I_B= 0.2A			1.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 60V ; I_E= 0			10	μA
I_{CER}	Collector Cutoff Current	V_{CE}= 60V ; R_{BE}= 50Ω ,T_a=125℃			1.0	mA
I_{CEX}	Collector Cutoff Current	V_{CE}= 60V; $V_{BE(off)}$= -1.5V V_{CE}= 60V; $V_{BE(off)}$= -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= 0.5A ; V_{CE}= 2V	100			
h_{FE-2}	DC Current Gain	I_C= 1.0A ; V_{CE}= 2V	100		400	
h_{FE-3}	DC Current Gain	I_C= 3.0A ; V_{CE}= 2V	60			
C_{OB}	Output Capacitance	I_E= 0 ; V_{CB}= 10V;f= 1.0MHz		70		pF
f_T	Current-Gain—Bandwidth Product	I_C= 0.5A ; V_{CE}= 10V		150		MHz
Switching times						
t_{on}	Turn-on Time	I_C= 3.0A ,R_L= 17Ω , I_{B1}= -I_{B2}= 0.15A,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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