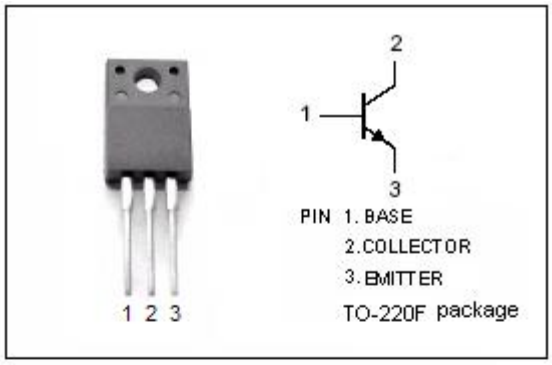
isc Silicon NPN Power Transistors — 2SC4150

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= 40V(Min)
- Collector Current-I_C= 12A(Max.)
- Low Collector Saturation Voltage
  : $V_{CE(sat)}$ = 0.3V(Max.)@ I_C= 6A
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for use in drivers such as DC/DC converters and actuators.

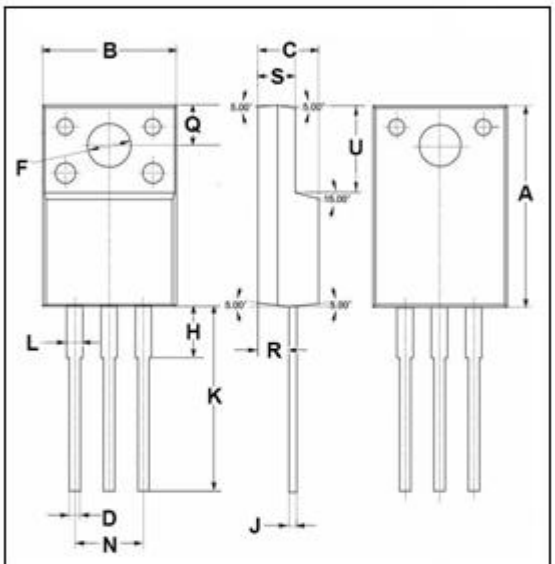


ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	12	A
I_{CM}	Collector Current-Peak	24	A
I_B	Base Current-Continuous	2	A
I_{BM}	Base Current-Peak	3	A
P_T	Total Power Dissipation @ T_C=25℃	25	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	5	℃/W



DIM	mm MIN	MAX
A	14.95	15.05
B	10.00	10.10
C	4.40	4.60
D	0.75	0.80
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	2.85
U	6.40	6.60

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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= 0.1A; I_B= 0	40			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 6A; I_B= 0.3A			0.3	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 6A; I_B= 0.3A			1.2	V
I_{CBO}	Collector Cutoff Current	At rated Voltage			100	μA
I_{CEO}	Collector Cutoff Current	At rated Voltage			100	μA
I_{EBO}	Emitter Cutoff Current	At rated Voltage			100	μA
h_{FE}	DC Current Gain	I_C= 6A; V_{CE}= 2V	70			
f_T	Current-Gain—Bandwidth Product	I_C= 1.2A; V_{CE}= 10V		50		MHz
Switching times						
t_{on}	Turn-on Time	I_C= 6A, I_{B1}= 0.6A; I_{B2}= -0.6A; R_L= 5Ω ; V_{BB2}= 4V			0.3	μs
t_{stg}	Storage Time				1.5	μs
t_f	Fall Time				0.5	μs