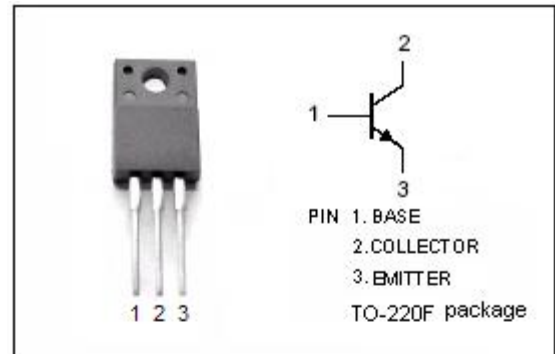


isc Silicon NPN Power Transistors
2SC4150
DESCRIPTION

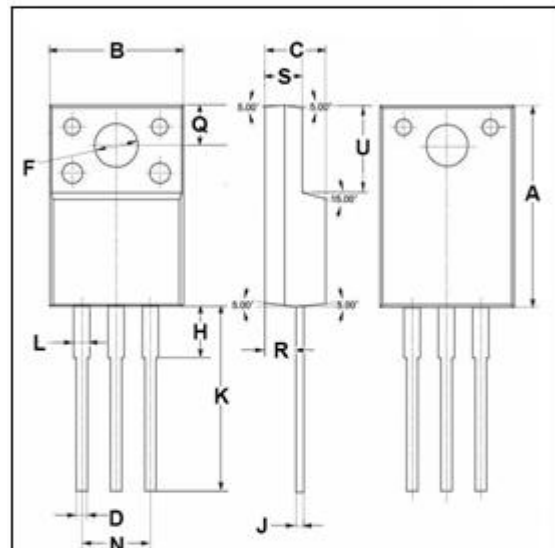
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 40V(\text{Min})$
- Collector Current- $I_C = 12A(\text{Max.})$
- Low Collector Saturation Voltage
: $V_{CE(sat)} = 0.3V(\text{Max.}) @ I_C = 6A$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable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

APPLICATIONS

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


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

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 @ $T_C=25^\circ\text{C}$	25	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



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

THERMAL CHARACTERISTICS

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

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ELECTRICAL CHARACTERISTICS
 $T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=0.1\text{A}; I_B=0$	40			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=6\text{A}; I_B=0.3\text{A}$			0.3	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=6\text{A}; I_B=0.3\text{A}$			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	$I_C=6\text{A}; V_{CE}=2\text{V}$	70			
f_T	Current-Gain—Bandwidth Product	$I_C=1.2\text{A}; V_{CE}=10\text{V}$		50		MHz
Switching times						
t_{on}	Turn-on Time	$I_C=6\text{A}; I_{B1}=0.6\text{A}; I_{B2}=-0.6\text{A}; R_L=5\Omega; V_{BB2}=4\text{V}$			0.3	μs
t_{stg}	Storage Time				1.5	μs
t_f	Fall Time				0.5	μs

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