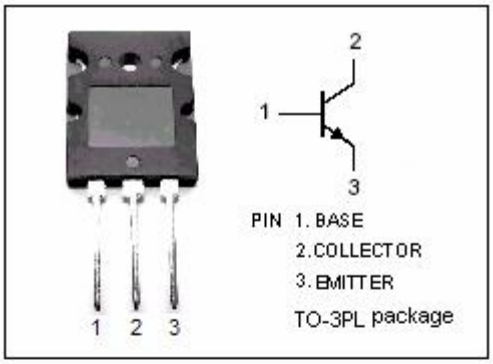
isc Silicon NPN Darlington Power Transistor 2SD1314



DESCRIPTION

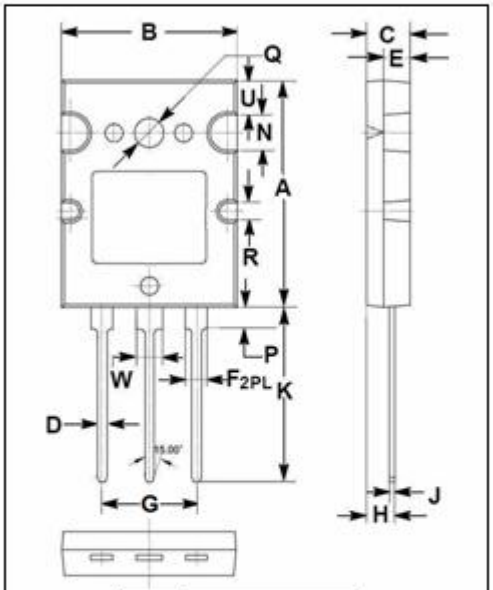
- High DC Current Gain
  :h_{FE}= 100(Min) @ I_C= 15A
- Collector-Emitter Sustaining Voltage-
  :$V_{CEO(SUS)}$= 450V (Min)
- Fast Switching Speed
- Low Collector-Emitter Saturation Voltage-
  :$V_{CE(sat)}$= 2.0V (Max) @ I_C= 15A
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for high power switching and motor control applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	600	V
V_{CEO}	Collector-Emitter Voltage	450	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	15	A
I_{CM}	Collector Current-peak	30	A
I_B	Base Current	1.0	A
P_C	Collector Power Dissipation @T_C=25℃	150	W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



DIM	mm MIN	MAX
A	25.50	26.50
B	19.80	20.20
C	4.50	5.50
D	0.90	1.10
E	2.80	3.20
F	2.40	2.60
G	10.80	11.00
H	3.10	3.30
J	0.50	0.70
K	20.00	21.00
N	3.90	4.50
P	2.40	2.60
Q	3.10	3.50
R	1.90	2.60
U	3.90	4.10
W	2.90	3.25

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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	450			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 15A; I_B= 0.4A			2.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 15A; I_B= 0.4A			2.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 600V; I_E= 0			1	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 6V; I_C= 0			10	mA
h_{FE}	DC Current Gain	I_C= 15A; V_{CE}= 5V	100			
C_{OB}	Output Capacitance	I_E= 0 ; V_{CB}= 50V,f_{test}= 1MHz		150		pF
Switching Times; Resistive Load						
t_{on}	Turn-on Time	I_{B1}= -I_{B2}= 0.4A,V_{CC}≈ 300V;			1.0	μs
t_{stg}	Storage Time				12	μs
t_f	Fall Time				3.0	μs