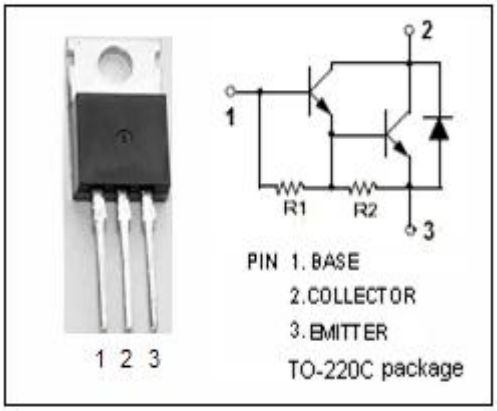
isc Silicon NPN Darlington Power Transistor 2SD1024

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= 100V(Min)
- High DC Current Gain
  : h_{FE}= 1500(Min) @I_C= 5A
- Low Saturation Voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

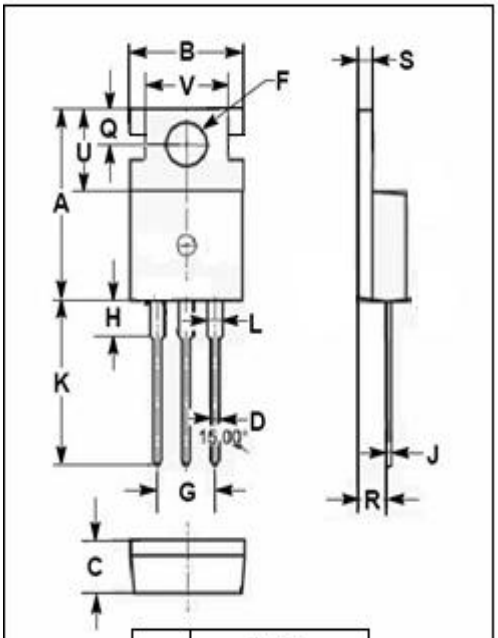
- Designed for general purpoe amplifier applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	8	A
I_{CP}	Collector Current-Peak	12	A
I_B	Base Current-Continuous	0.5	A
I_{BM}	Base Current-Peak	1	A
P_C	Collector Power Dissipation @ T_C=25℃	50	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	2.5	℃/W



DIM	mm MIN	mm MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 5A; I_B= 6mA			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 5A; I_B= 6mA			2.0	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 100V; I_E=0			0.1	mA
I_{CEO}	Collector Cutoff Current	V_{CE}= 100V; I_B=0			0.1	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 7V; I_C=0			5	mA
h_{FE}	DC Current Gain	I_C= 5A; V_{CE}= 3V	1500		30000	
f_T	Current-Gain—Bandwidth Product	I_C= 0.8A; V_{CE}= 10V		20		MHz
Switching times						
t_{on}	Turn-on Time	I_C= 8A, I_{B1}= I_{B2}= 8mA R_L= 3Ω ; V_{BB2}= 4V			2.0	μs
t_{stg}	Storage Time				5.0	μs
t_f	Fall Time				3.0	μs