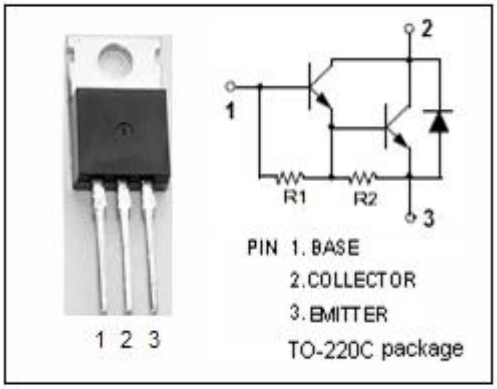
isc Silicon NPN Darlington Power Transistor — 2SD2024



DESCRIPTION

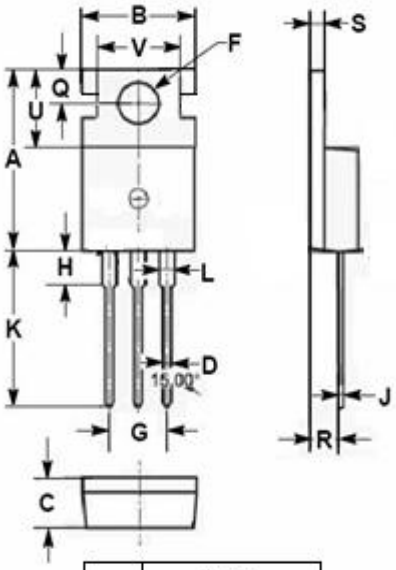
- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 100V(Min)
- High DC Current Gain-
  : h_{FE}= 1000(Min)@ (V_{CE}= 3V, I_C= 2A)
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for power amplifier applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	120	V
V_{CEO}	Collector-Emitter Voltage	120	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	8	A
I_{CM}	Collector Current-Peak	10	A
P_C	Collector Power Dissipation @T_a=25℃	2	W
	Collector Power Dissipation @T_C=25℃	40	
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~150	℃



DIM	mm MIN	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

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 5mA; I_B= 0	120			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C= 100 μ A; I_E= 0	120			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 3A; I_B= 6mA			1.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 120V; I_E= 0			10	μ A
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0			3	mA
h_{FE}	DC Current Gain	I_C= 2A; V_{CE}= 3V	1000		20000	
C_{OB}	Output Capacitance	I_E= 0; V_{CB}= 10V; f_{test}= 1MHz		50		pF
f_T	Current-Gain—Bandwidth Product	I_E= 0.5A; V_{CE}= 5V; f_{test}= 10MHz		40		MHz