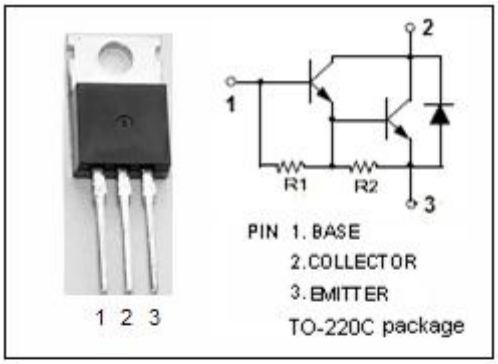
isc Silicon NPN Darlington Power Transistor 2SD1769

DESCRIPTION

- High DC Current Gain-
  : h_{FE} = 2000(Min)@ I_C= 3A
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = 120V(Min)
- Low Collector-Emitter Saturation Voltage-
  : $V_{CE(sat)}$ = 1.5V(Max)@ I_C= 3A
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

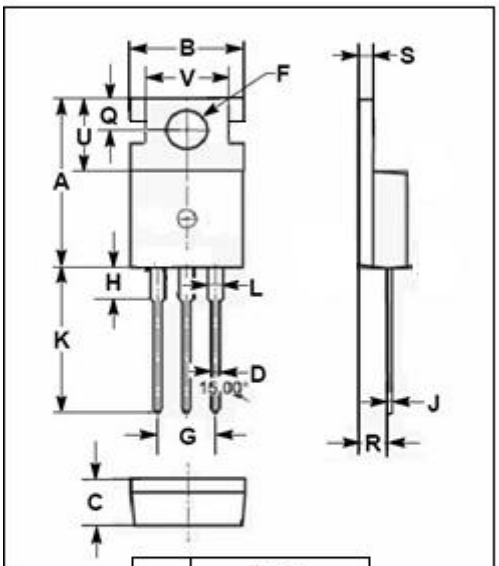


APPLICATIONS

- Designed for solenoid driver, relay and motor, series regulator, and general purpose 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	6	V
I_C	Collector Current-Continuous	6	A
I_{CM}	Collector Current-Peak	10	A
I_B	Base Current	1	A
P_C	Collector Power Dissipation T_C=25℃	50	W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-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

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 10mA, I_B= 0	120			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 3A ,I_B= 3mA			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 3A ,I_B= 3mA			2.0	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 120V, I_E= 0			10	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 6V; I_C= 0			20	mA
h_{FE}	DC Current Gain	I_C= 3A ; V_{CE}= 2V	2000			
f_T	Current-Gain—Bandwidth Product	I_E= 0.2A ; V_{CE}= 12V		100		MHz
Switching Times						
t_{on}	Turn-on Time	I_C= 3A ,R_L= 10Ω , I_{B1}= I_{B2}= 3mA,V_{CC}= 30V		0.5		μs
t_{stg}	Storage Time			5.5		μs
t_f	Fall Time			1.5		μs

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