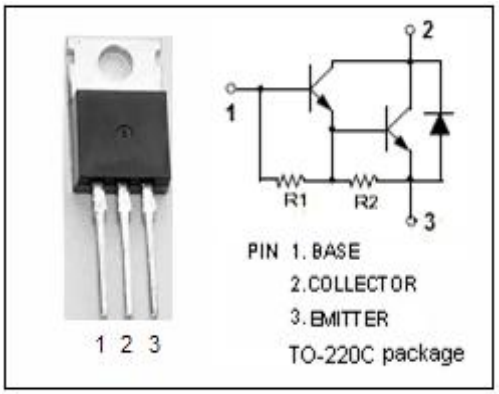
isc Silicon NPN Darlington Power Transistor 2SD1191



DESCRIPTION

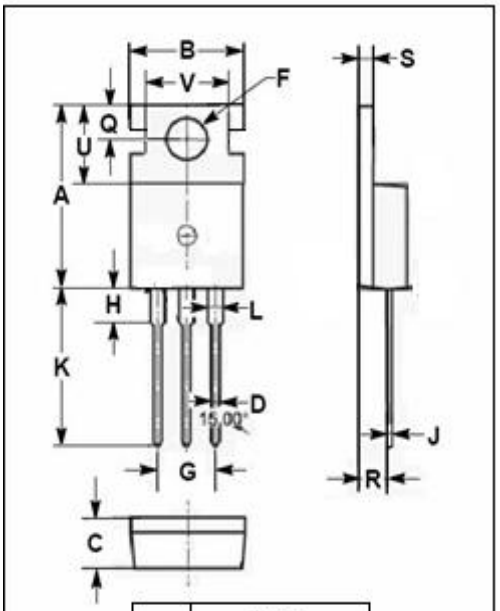
- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 60V(Min)
- High DC Current Gain
  : h_{FE}= 2000(Min) @I_C= 3.5A
- Low Saturation Voltage
- Complement to Type 2SB881
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for motor drivers, printer hammer drivers, relay drivers, voltage regulator applications

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	70	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	7	A
I_{CP}	Collector Current-Peak	10	A
P_C	Collector Power Dissipation @ T_a=25℃	1.75	W
	Collector Power Dissipation @ T_C=25℃	30	
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= 30mA; R_{BE}= ∞	60			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C= 3mA; I_E= 0	70			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 3.5A; I_B= 7mA			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 3.5A; I_B= 7mA			2.0	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 40V; I_E= 0			100	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0			3.0	mA
h_{FE}	DC Current Gain	I_C= 3.5A; V_{CE}= 2V	2000			
f_T	Current-Gain—Bandwidth Product	I_C= 3.5A; V_{CE}= 5V		20		MHz
Switching times						
t_{on}	Turn-on Time	I_C= 3A, I_{B1}= I_{B2}= 6mA R_L= 6.7Ω; V_{CC}= 20V; P_W= 50μs; Duty Cycle≤1%		0.6		μs
t_{stg}	Storage Time			3.0		μs
t_f	Fall Time			1.7		μs

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