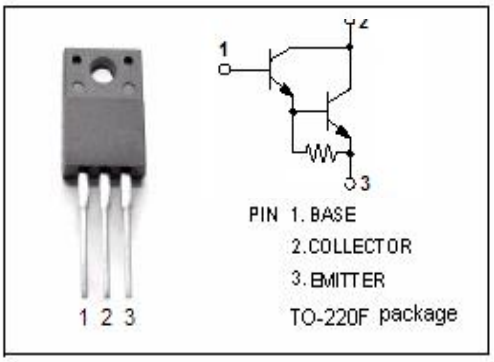
isc Silicon NPN Darlington Power Transistor 2SD1890

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 80V(Min)
- High DC Current Gain
  : h_{FE}= 5000(Min) @I_C= 2A
- Low Collector Saturation Voltgae-
  : $V_{CE(sat)}$= 2.5V(Max.)@ I_C= 2A
- Complement to Type 2SB1250
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

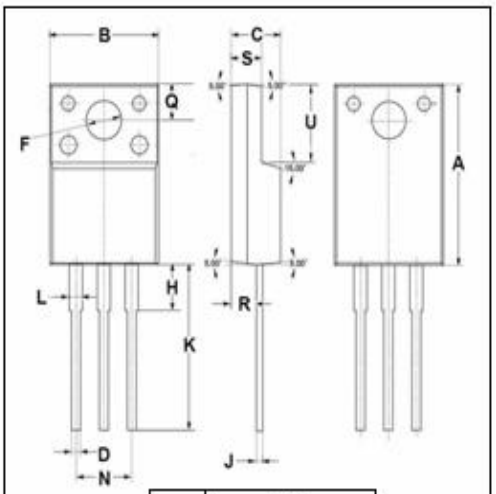


APPLICATIONS

- For power amplification

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	3	A
I_{CP}	Collector Current-Peak	6	A
P_C	Collector Power Dissipation @ T_a=25℃	2	W
	Collector Power Dissipation @ T_C=25℃	35	
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



DIM	mm MIN	mm MAX
A	14.95	15.05
B	10.00	10.10
C	4.40	4.60
D	0.75	0.90
F	3.10	3.30
H	3.70	3.90
J	0.50	0.70
K	13.4	13.6
L	1.10	1.30
N	5.00	5.20
Q	2.70	2.90
R	2.20	2.40
S	2.65	2.90
U	6.40	6.60

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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; I_B= 0	80			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C= 1mA; I_E= 0	100			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 2A; I_B= 2mA			2.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 2A; I_B= 2mA			3.0	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 100V; I_E= 0			100	μA
I_{CEO}	Collector Cutoff current	V_{CE}= 80V,I_B= 0			100	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0			3.0	mA
h_{FE-1}	DC Current Gain	I_C= 1A; V_{CE}= 5V	2000			
h_{FE-2}	DC Current Gain	I_C= 2A; V_{CE}= 5V	5000		30000	
f_T	Current-Gain—Bandwidth Product	I_C= 0.5A; V_{CE}= 10V		20		MHz
Switching times						
t_{on}	Turn-on Time	I_C= 2A, I_{B1}= I_{B2}= 2mA		3.5		μs
t_{stg}	Storage Time			2.5		μs
t_f	Fall Time			0.6		μs

◆ **h_{FE-2}Classifications**

Q	P
5000-15000	8000-30000

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