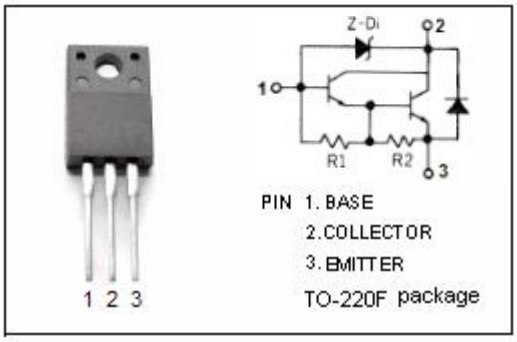
isc Silicon NPN Darlington Power Transistor 2SD1790

DESCRIPTION

- Low Collector Saturation Voltage
- High DC Current Gain
- High Reliability
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

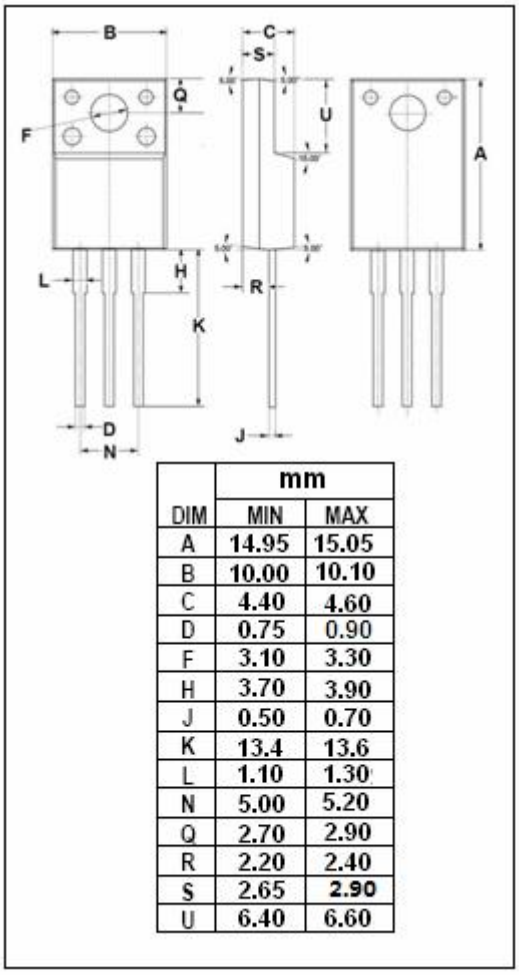


APPLICATIONS

- Designed for audio frequency power amplifier and low speed high current switching industrial use.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CEO}	Collector-Emitter Voltage	50-70	V
V_{CBO}	Collector-Base Voltage	50-70	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continunous	4	A
I_{CM}	Collector Current-Peak	6	A
I_B	Base Current-Continuous	0.3	A
I_{BM}	Base Current-Peak	0.5	A
P_C	Collector Power Dissipation @T_C=25℃	25	W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃



DIM	mm MIN	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

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance, Junction to Case	5.0	℃/W

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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= 1A; I_B= 2mA			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 1A; I_B= 2mA			2.0	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 40V; I_E= 0			0.1	mA
I_{CEO}	Collector Cutoff Current	V_{CE}= 40V; 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= 1A, V_{CE}= 3V	1500		30000	
f_T	Current-Gain—Bandwidth Product	I_C= 0.4A; V_{CE}= 10V		20		MHz
Switching Times; Resistive Load						
t_{on}	Turn-On Time	I_C= 1A; I_{B1}= -I_{B2}= 2mA V_{BB2}= 4V; R_L= 25Ω			2	μs
t_s	Storage Time				12	μs
t_f	Fall Time				5	μs