

isc Silicon NPN Darlington Power Transistor

2SD1791

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 100V$ (Min.)
- High Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

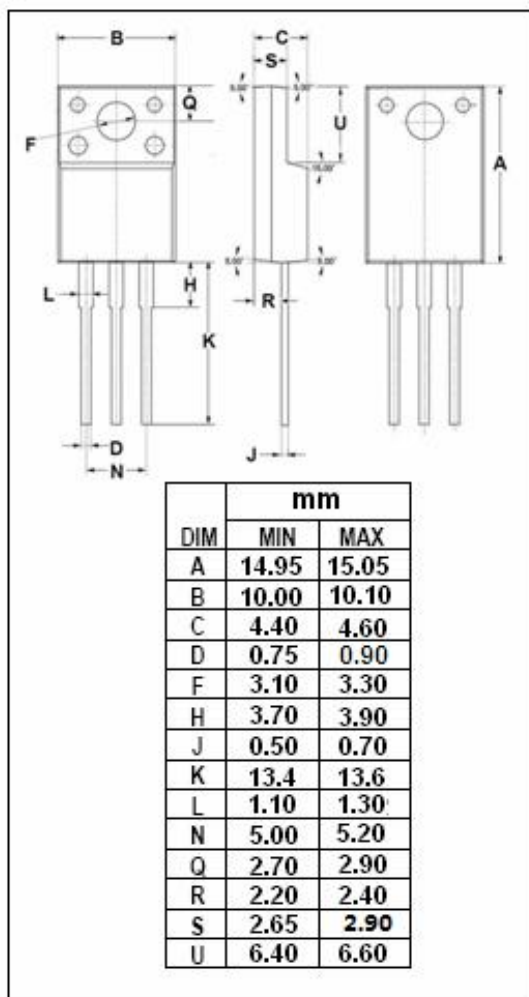
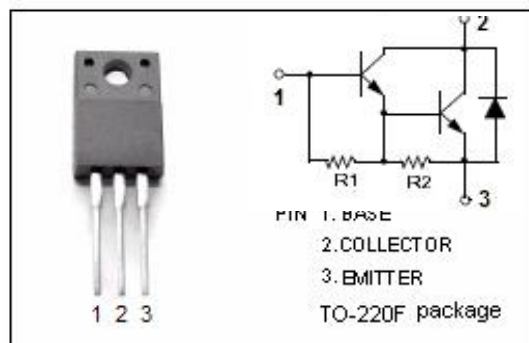
- Designed for audio frequency power amplifier and low speed high current switching industrial use.

ABSOLUTE MAXIMUM RATINGS($T_a=25^{\circ}C$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CEO}	Collector-Emitter Voltage	100	V
V_{CBO}	Collector-Base Voltage	100	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	7	A
I_{CM}	Collector Current-Peak	10	A
I_B	Base Current-Continuous	0.5	A
I_{BM}	Base Current-Peak	1.0	A
P_C	Collector Power Dissipation @ $T_c=25^{\circ}C$	30	W
T_j	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature Range	-55~150	$^{\circ}C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	4.17	$^{\circ}C/W$



isc Silicon NPN Darlington Power Transistor**2SD1791****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 3A; I _B = 5mA			1.5	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 3A; I _B = 5mA			2.0	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 100V; I _E = 0			0.1	mA
I _{CEO}	Collector Cutoff Current	V _{CE} = 100V; 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 = 3A, V _{CE} = 3V	1500		30000	
f _T	Current-Gain—Bandwidth Product	I _C = 0.7A; V _{CE} = 10V		20		MHz

Switching Times; Resistive Load

t _{on}	Turn-On Time	I _C = 3A; I _{B1} = -I _{B2} = 5mA V _{BB2} = 4V; R _L = 10 Ω			2	μ s
t _s	Storage Time				12	μ s
t _f	Fall Time				5	μ s

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