

SPTECH Silicon NPN Darlington Power Transistor**2SD1296****DESCRIPTION**

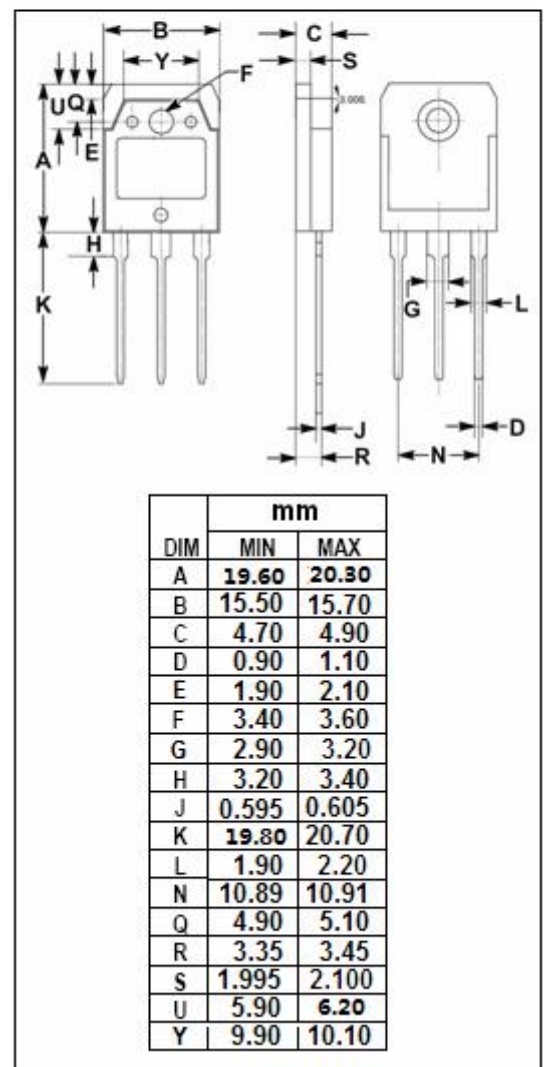
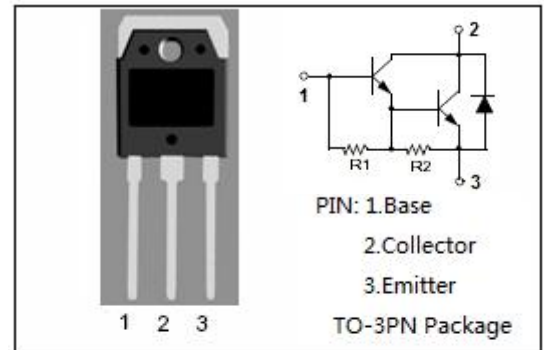
- High DC Current Gain
: $h_{FE} = 1000(\text{Min.}) @ I_C = 15\text{A}, V_{CE} = 2\text{V}$
- High Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 100\text{V}(\text{Min})$
- Low Collector Saturation Voltage

APPLICATIONS

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

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	150	V
V_{CEO}	Collector-Emitter Voltage	100	V
$V_{CEO(SUS)}$	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	8	V
I_C	Collector Current-Continuous	15	A
I_{CM}	Collector Current-Peak	30	A
I_B	Base Current- Continuous	1.5	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	100	W
	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	3.0	
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS

$T_C=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10\text{mA}$, $I_B=0$	100			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=15\text{A}$, $I_B=30\text{mA}$			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=15\text{A}$, $I_B=30\text{mA}$			2.2	V
I_{CBO}	Collector Cutoff current	$V_{CB}=100\text{V}$, $I_E=0$			10	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=8\text{V}$, $I_C=0$			10	mA
h_{FE}	DC Current Gain	$I_C=15\text{A}$; $V_{CE}=2\text{V}$	1000		30000	

Switching Times

t_{on}	Turn-On Time	$I_C=15\text{A}$, $I_{B1}=I_{B2}=30\text{mA}$; $R_L=4\Omega$; $V_{CC}\approx 60\text{V}$		1.0		μs
t_{stg}	Storage Time			5.0		μs
t_f	Fall Time			2.0		μs

◆ h_{FE-1} classifications

M	L	K	J
1000-3000	2000-5000	4000-10000	8000-30000