

Silicon NPN Power Transistor

2N5296

DESCRIPTION

- Collector-Emitter Breakdown Voltage
 $-V_{(BR)CEO} = 40V(\text{Min})$
- Collector-Emitter Saturation Voltage
 $-V_{CE(sat)}: 1.0V(\text{Max}) @ I_C=1.0A$

APPLICATIONS

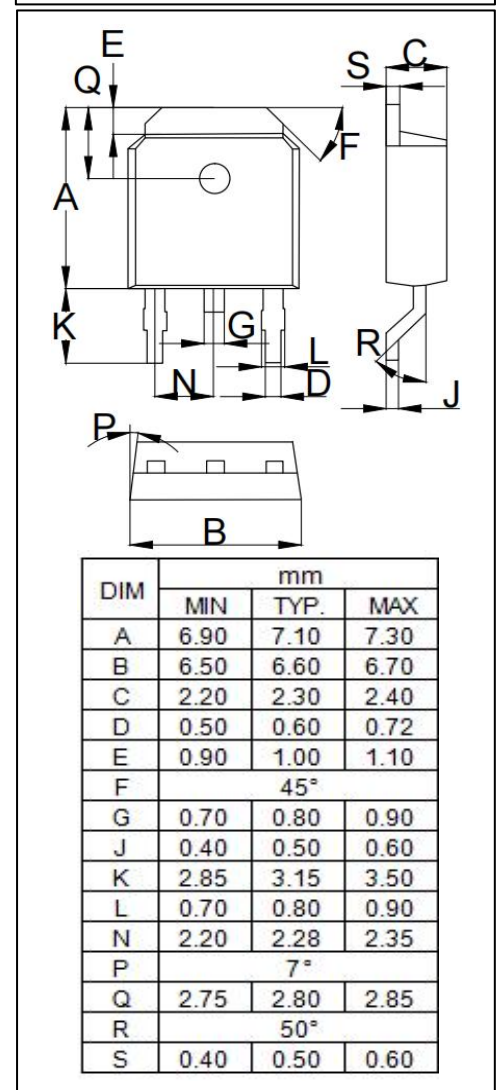
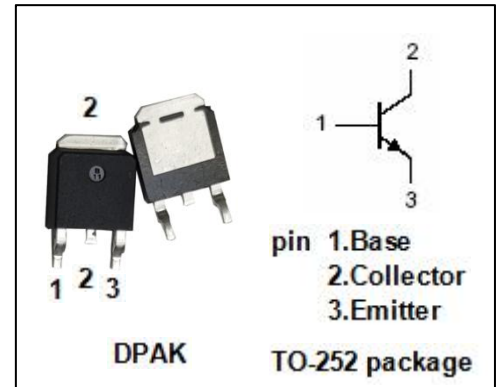
- Designed for medium power switching amplifier applications.

ABSOLUTE MAXIMUM RATINGS(Ta=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CBO}	Collector-Base Voltage	60	V
V _{CEO}	Collector-Emitter Voltage	40	V
V _{EBO}	Emitter-Base Voltage	5	V
I _C	Collector Current-Continuous	4.0	A
I _B	Base Current	2.0	A
P _C	Collector Power Dissipation @ T _C =25°C	36	W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature Range	-65~150	°C

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal Resistance, Junction to Case	3.47	°C/W



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ELECTRICAL CHARACTERISTICS (T_C=25°C unless otherwise specified)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C =50mA ; I _B = 0	40	--	--	V
V _{CEV}	Collector-Emitter Sustaining Voltage	I _C =100mA ; V _{BE} = 1.5V	60	--	--	V
V _{CER}	Collector-Emitter Sustaining Voltage	I _C =100mA ; R _{BE} = 100 Ω	50	--	--	V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 1A; I _B = 0.1A	--	--	1.0	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = 1A; V _{CE} = 4V	--	--	1.3	V
I _{CEV}	Collector Cutoff Current	V _{CE} = 35V; V _{BE} = 1.5V; V _{CE} = 35V; V _{BE} =1.5V; T _C = 150°C	--	--	2.0 3.0	mA
I _{CER}	Collector Cutoff Current	V _{CE} = 50V; R _{BE} = 100 Ω V _{CE} = 0V; R _{BE} =100 Ω ; T _C = 150°C	--	--	0.5 2.0	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0	--	--	1.0	mA
h _{FE}	DC Current Gain	I _C = 1A; V _{CE} = 4V	30	--	120	
f _T	Current-Gain—Bandwidth Product	I _C = 0.2A; V _{CE} = 4V	0.8	--	--	MHz
t _{on}	Turn-On Time	I _C = 1A; I _B = 0.1A; V _{CC} = 30V			5.0	us
t _{off}	Turn-Off Time	I _C = 1A; I _B = 0.1A; V _{CC} = 30V			15	us

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