



## SILICON PLASTIC POWER TRANSISTOR

**NPN 2N5296**

**4A 36W**

### Technical Data

...designed for use in general-purpose switching and amplifier applications.

- ☞ DC Current Gain -  $h_{FE} = 30-120$  @  $I_C = 1.0A_{dc}$
- ☞ Collector-Emitter Sustaining Voltage –  $V_{CEO(sus)} = 40$  Vdc (Min)
- ☞ TO-220 Package

### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector- Emitter Voltage	$V_{CEO}$	40	Vdc
Collector- Emitter Voltage	$V_{CER}$	50	Vdc
Collector – Base Voltage	$V_{CBO}$	60	Vdc
Emitter Base Voltage	$V_{EB}$	5	Vdc
Collector Current – Continuous	$I_C$	4	Adc
Base Current	$I_B$	2	Adc
Total Power Dissipation @ $T_C = 25^\circ C$ Derate above $25^\circ C$	PD	36 0.288	Watts W/ $^\circ C$
Operating and Storage junction Temperature Range	$T_j, T_{stg}$	-65 to +150	$^\circ C$

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max.	Unit
Thermal resistance junction to case	$R_{thjc}$	3.5	$^\circ C/W$



**ELECTRICAL CHARACTERISTICS : [ T<sub>c</sub> = 25 °C unless otherwise noted ]**

Characteristic	Symbol	Min	Typ	Max	Unit
<b>* OFF CHARACTERISTICS :</b>					
Collector–Emitter Sustaining Voltage (1) [ I <sub>c</sub> =100 mAdc, I <sub>B</sub> = 0 ]	V <sub>CEO(sus)</sub>	40			Vdc
Collector Cutoff Current [ V <sub>CE</sub> = 35 Vdc, V <sub>BE(off)</sub> = 1.5 Vdc ]	I <sub>CEX</sub>			2	mAdc
Emitter Cutoff Current [ V <sub>EB</sub> =5.0 Vdc , I <sub>c</sub> = 0 ]	I <sub>EBO</sub>			1	mAdc
<b>* ON CHARACTERISTICS (1):</b>					
DC Current Gain [ I <sub>c</sub> = 1.0 Adc , V <sub>CE</sub> = 4.0 Vdc ]	h <sub>FE</sub>	30		120	
Collector-Emitter Saturation Voltage [ I <sub>c</sub> =1Adc , I <sub>B</sub> = 0.1 Adc )	V <sub>CE(sat)</sub>			1.0	Vdc
Base-Emitter on Voltage [ I <sub>c</sub> =1.0 Adc , V <sub>CE</sub> = 4.0. V <sub>DC</sub> ]	V <sub>BE(on)</sub>			1.3	Vdc
<b>DYNAMIC CHARACTERISTICS :</b>					
Current Gain – Bandwidth Product [I <sub>c</sub> =0.2Adc,V <sub>CE</sub> =4Vdc,f <sub>test</sub> =1.0 MHz ]	f <sub>T</sub>	0.8			MHz

- Indicates within JEDEC Registration Data.
- (1) Pulse Test : Pulse Width <300μs , Duty Cycle < 2.0%