



SILICON PLASTIC POWER TRANSISTOR

PNP 2N6107

7A 40W

Technical Data

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

- ☞ DC Current Gain - $h_{FE} = 30-150$ @ $I_C = 2.0A_{dc}$
- ☞ Collector-Emitter Sustaining Voltage – $V_{CEO}(sus) = 70 V_{dc}$ (Min)
- ☞ TO-220 Package

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector- Emitter Voltage	V_{CEO}	70	Vdc
Collector – Base Voltage	V_{CB}	80	Vdc
Emitter Base Voltage	V_{EB}	5	Vdc
Collector Current – Continuous	I_C	7	Adc
Peak		10	
Base Current	I_B	3	Adc
Total Power Dissipation @ $T_C = 25^{\circ}C$	PD	40	Watts
Derate above $25^{\circ}C$		0.32	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}	3.125	$^{\circ}C/W$



ELECTRICAL CHARACTERISTICS : [$T_c = 25^\circ\text{C}$ unless otherwise noted]

Characteristic	Symbol	Min	Typ	Max	Unit
* OFF CHARACTERISTICS :					
Collector–Emitter Sustaining Voltage (1) [$I_c = 100\text{ mAdc}$, $I_B = 0$]	$V_{CEO(sus)}$	70			Vdc
Collector Cutoff Current [$V_{CE} = 60\text{ Vdc}$, $I_B = 0$]	I_{CE0}			1	mAdc
Collector Cutoff Current [$V_{CE} = 80\text{ Vdc}$, $V_{BE(off)} = 1.5\text{ Vdc}$] [$V_{CE} = 70\text{ Vdc}$, $V_{BE(off)} = 1.5\text{ Vdc}$, $T_c = 150^\circ\text{C}$]	I_{CEX}			100 2	✱Adc mAdc
Emitter Cutoff Current [$V_{BE} = 5.0\text{ Vdc}$, $I_c = 0$]	I_{EBO}			1	mAdc
* ON CHARACTERISTICS (1):					
DC Current Gain [$I_c = 2.0\text{ Adc}$, $V_{CE} = 4.0\text{ Vdc}$] [$I_c = 7\text{ Adc}$, $V_{CE} = 4.0\text{ Vdc}$]	h_{FE}	30 2.3		150	
Collector-Emitter Saturation Voltage [$I_c = 7\text{ Adc}$, $I_B = 3\text{ Adc}$]	$V_{CE(sat)}$			3.5	Vdc
Base-Emitter on Voltage [$I_c = 7.0\text{ Adc}$, $V_{CE} = 4.0\text{ Vdc}$]	$V_{BE(on)}$			3.0	Vdc
DYNAMIC CHARACTERISTICS :					
Current Gain – Bandwidth Product [$I_c = 0.5\text{ Adc}$, $V_{CE} = 4\text{ Vdc}$, $f_{test} = 1.0\text{ MHz}$]	f_T	10			MHz
Small-Signal Current Gain [$I_c = 0.5\text{ Adc}$, $V_{CE} = 4.0\text{ Vdc}$, $f = 50\text{ kHz}$]	h_{fe}	20			
Output Capacitance ($V_{CB} = 10\text{ V}$, $I_E = 0$, $f = 1.0\text{ MHz}$)	C_{OB}			250	pF

Σ Indicates within JEDEC Registration Data.

Σ (1) Pulse Test : Pulse Width $< 300\text{ ms}$, Duty Cycle $< 2.0\%$