

**SILICON PLASTIC POWER TRANSISTOR**  
**NPN 2SD880Y**  
**3A 30W**

**Technical Data**

...designed for Low Frequency Power Amplifier.

- ☞ Collector-Emitter Voltage:  $V_{CEO}=60V$
- ☞ DC Current Gain: 20 @  $I_C=3A$
- ☞ TO-220 Package

**MAXIMUM RATINGS**

Rating	Symbol	Value	Unit
Collector- Emitter Voltage	$V_{CEO}$	60	Vdc
Collector – Base Voltage	$V_{CB}$	60	Vdc
Emitter Base Voltage	$V_{EB}$	7	Vdc
Collector Current – Continuous	$I_C$	3	Adc
Base Current	$I_B$	0.3	Adc
Total Power Dissipation @ $T_C = 25^\circ C$ Derate above $25^\circ C$	PD	30 0.24	Watts W/ $^\circ C$
Operating and Storage junction Temperature Range	$T_j, T_{stg}$	-55 to +150	$^\circ C$

**THERMAL CHARACTERISTICS**

Characteristic	Symbol	Max.	Unit
Thermal resistance junction to case	$R_{thjc}$	4.16	$^\circ C/W$



**ELECTRICAL CHARACTERISTICS : [ Tc = 25 °C unless otherwise noted ]**

Characteristic	Symbol	Min	Typ	Max	Unit
<b>* OFF CHARACTERISTICS :</b>					
Collector–Emitter Breakdown Voltage [ Ic =50 mAdc, IB = 0 ]	V <sub>CEO(sus)</sub>	60			Vdc
Collector Cutoff Current [ V <sub>CB</sub> = 60 Vdc, IB = 0 ]	I <sub>CB0</sub>			100	⊛Adc
Collector–Base Breakdown Voltage [ Ic =1mAdc, IE = 0 ]	BV <sub>CBO</sub>	60			Vdc
Emitter Cutoff Current [V <sub>EB</sub> =7Vdc, IC=0]	I <sub>EBO</sub>			100	⊛Adc
<b>* ON CHARACTERISTICS (1):</b>					
DC Current Gain [ Ic = 0.5 Adc , V <sub>CE</sub> = 5.0 Vdc ] [ Ic =3 Adc , V <sub>CE</sub> =5.0 Vdc ]	h <sub>FE</sub>	100 20		200	
Collector-Emitter Saturation Voltage [ Ic = 3Adc , IB = 0.3Adc )	V <sub>CE(sat)</sub>			1	Vdc
Emitter–Base Saturation Voltage [ Ic =0.5Adc, V <sub>CE</sub> =5V ]	V <sub>BE(ON)</sub>			1	Vdc
<b>DYNAMIC CHARACTERISTICS :</b>					
Current Gain – Bandwidth Product [Ic=0.5Adc,V <sub>CE</sub> =5Vdc,f <sub>test</sub> =1.0 MHz ]	f <sub>T</sub>		3		MHz
Collector Output Capacitance V <sub>CB</sub> =10V,IE=0,f=1MHz	C <sub>OB</sub>		70		pF

- (1) Pulse Test : Pulse Width <300µs , Duty Cycle < 2.0%