



**SILICON PLASTIC POWER TRANSISTOR  
PNP BD242A/B/C**

**3A 40W**

**Technical Data**

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

- ☞ Collector-Emitter Saturation Voltage-  
 $V_{CE}=1.2Vdc(Max)@I_C=3Adc$
- ☞ Collector-Emitter Sustaining Voltage-  
 $V_{CEO}(sus)=100Vdc(Min)$
- ☞ TO-220 Package

**MAXIMUM RATINGS**

Rating	Symbol	BD242A	BD242B	BD242C	Unit
Collector- Emitter Voltage	$V_{CEO}$	60	80	100	Vdc
Collector – Emitter Voltage	$V_{CES}$	70	90	115	Vdc
Emitter Base Voltage	$V_{EB}$		5		Vdc
Collector Current – Continuous	$I_C$		3		Adc
Peak			5		
Base Current	$I_B$		1		Adc
Total Power Dissipation @ TC = 25°C	PD		40		Watts
Derate above 25°C			0.32		W/°C
Operating and Storage junction Temperature Range	$T_j, T_{stg}$		-65 to +150		°C

**THERMAL CHARACTERISTICS**

Characteristic	Symbol	Max.	Unit
Thermal resistance junction to case	$R_{thjc}$	3.125	°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> =30 mAdc, I <sub>B</sub> = 0 ]	V <sub>CEO(sus)</sub>	60 80 100			Vdc
Collector Cutoff Current [ V <sub>CE</sub> = 30 Vdc, I <sub>B</sub> = 0 ] [ V <sub>CE</sub> =60Vdc,I <sub>B</sub> =0]	I <sub>CE0</sub>			0.3 0.3	mAdc
Collector Cutoff Current [ V <sub>CE</sub> =60Vdc, V <sub>BE</sub> =0] [ V <sub>CE</sub> =80Vdc, V <sub>BE</sub> =0] [ V <sub>CE</sub> =100Vdc, V <sub>BE</sub> =0]	I <sub>CES</sub>			200 200 200	⊛Adc
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> = 1.0Adc , V <sub>CE</sub> = 4.0 Vdc ] [ I <sub>c</sub> = 3Adc , V <sub>CE</sub> = 4.0 Vdc ]	h <sub>FE</sub>	25 10			
Collector-Emitter Saturation Voltage [ I <sub>c</sub> = 3Adc , I <sub>B</sub> =600mAdc ]	V <sub>CE(sat)</sub>			1.2	Vdc
Base-Emitter on Voltage [ I <sub>c</sub> =3 Adc , V <sub>CE</sub> = 4V	V <sub>BE(on)</sub>			1.8	Vdc
<b>DYNAMIC CHARACTERISTICS :</b>					
Current Gain – Bandwidth Product [I <sub>c</sub> =0.5Adc,V <sub>CE</sub> =10Vdc,f <sub>test</sub> =1.0 MHz ]	f <sub>T</sub>	3			MHz
Small-Signal Current Gain [ I <sub>C</sub> =0.5 Adc, V <sub>CE</sub> =10 Vdc, f=1kHz]	h <sub>fe</sub>	20			

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