



**SILICON PLASTIC POWER TRANSISTOR
NPN BD241A/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	BD241A	BD241B	BD241C	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_c = 25 °C unless otherwise noted]

Characteristic	Symbol	Min	Typ	Max	Unit
* OFF CHARACTERISTICS :					
Collector–Emitter Sustaining Voltage(1) [I _c =30 mAdc, I _B = 0]	V _{CEO(sus)}	60 80 100			Vdc
Collector Cutoff Current [V _{CE} = 30 Vdc, I _B = 0] [V _{CE} =60Vdc,I _B =0]	I _{CE0}			0.3 0.3	mAdc
Collector Cutoff Current [V _{CE} =60Vdc, V _{BE} =0] [V _{CE} =80Vdc, V _{BE} =0] [V _{CE} =100Vdc, V _{BE} =0]	I _{CES}			200 200 200	⊛Adc
Emitter Cutoff Current [V _{EB} =5.0 Vdc , I _c = 0]	I _{EBO}			1	mAdc
* ON CHARACTERISTICS (1):					
DC Current Gain [I _c = 1.0Adc , V _{CE} = 4.0 Vdc] [I _c = 3Adc , V _{CE} = 4.0 Vdc]	h _{FE}	25 10			
Collector-Emitter Saturation Voltage [I _c = 3Adc , I _B =600mAdc]	V _{CE(sat)}			1.2	Vdc
Base-Emitter on Voltage [I _c =3 Adc , V _{CE} = 4V	V _{BE(on)}			1.8	Vdc
DYNAMIC CHARACTERISTICS :					
Current Gain – Bandwidth Product [I _c =0.5Adc,V _{CE} =10Vdc,f _{test} =1.0 MHz]	f _T	3			MHz
Small-Signal Current Gain [I _C =0.5 Adc, V _{CE} =10 Vdc, f=1kHz]	h _{fe}	20			

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