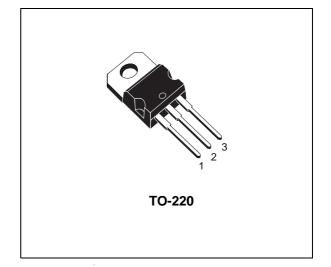


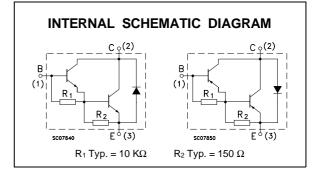
BDX33B BDX33C BDX34B BDX34C

COMPLEMENTARY SILICON POWER DARLINGTON TRANSISTORS

DESCRIPTION

The BDX33B and BDX33C are silicon Epitaxial-Base NPN power transistors in monolithic Darlington configuration mounted in Jedec TO-220 plastic package. They are intented for use in power linear and switching applications. The complementary PNP types are BDX34B and BDX34C respectively.





ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter				Unit
		NPN	BDX33B	BDX33C	
		PNP	BDX34B	BDX34C	
V _{СВО}	Collector-Base Voltage ($I_E = 0$)		80	100	V
V _{CEO}	Collector-Emitter Voltage $(I_B = 0)$		80	100	V
Ι _C	Collector Current		10		Α
I _{CM}	Collector Peak Current		15		Α
IB	Base Current		0.25		Α
P _{tot}	Total Dissipation at $T_c \le 25$ °C		70		W
T _{stg}	Storage Temperature		-65 to 150		°C
Tj	Max. Operating Junction Temperature	150		°C	

For PNP types voltage and current values are negative.

THERMAL DATA

R _{thj-case} Thermal Resistance Junction-case	1.78	°C/W	
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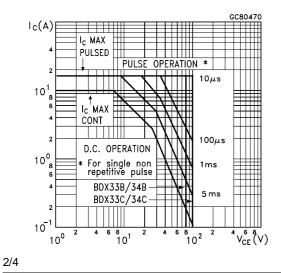
ELECTRICAL CHARACTERISTICS ($T_{case} = 25 \, {}^{\circ}C$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Тур.	Max.	Unit
I _{CBO}	Collector Cut-off Current $(I_E = 0)$				0.2 0.2	mA mA
		for BDX33B/34B $V_{CB} = 80 V$ for BDX33C/34C $V_{CB} = 100 V$			5 5	mA mA
I _{CEO}	Collector Cut-off Current $(I_B = 0)$				0.5 0.5 10 10	mA mA mA
I _{EBO}	Emitter Cut-off Current $(I_{C} = 0)$	V _{EB} = 5 V			5	mA
$V_{CEO(sus)^*}$	Collector-Emitter Sustaining Voltage $(I_B = 0)$	I _C =100 mA for BDX33B/34B for BDX33C/34C	80 100			V V
$V_{CER(sus)^*}$	Collector-emitter Sustaining Voltage (R_{BE} =100 Ω)	I _C = 100 mA for BDX33B/34B for BDX33C/34C	80 100			V V
$V_{CEV(sus)}*$	Collector-emitter Sustaining Voltage (V _{BE} =-1.5 V)	I _C = 100 mA for BDX33B/34B for BDX33C/34C	80 100			V V
V _{CE(sat)} *	Collector-emitter Saturation Voltage	$I_{\rm C} = 3 \text{ A}$ $I_{\rm B} = 6 \text{ mA}$			2.5	V
$V_{BE}*$	Base-emitter Voltage	I _C = 3 A V _{CE} = 3 V			2.5	V
h _{FE} *	DC Current Gain	I _C = 3 A V _{CE} = 3 V	750			V
V_{F^*}	Parallel-Diode Forward Voltage	I _F = 8 A			4	V
h _{fe}	Small Signal Current Gain	$I_C = 1 \text{ A} V_{CE} = 5 \text{ V} f = 1 \text{MHz}$	100			

* Pulsed: Pulse duration = 300 μs, duty cycle 1.5 %

For PNP types voltage and current values are negative.

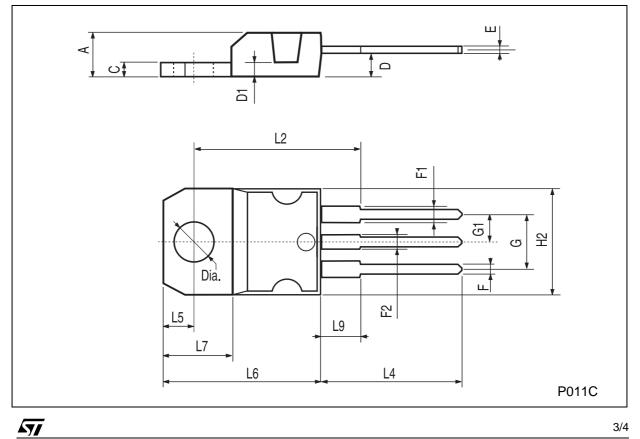
Safe Operating Area



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DIM.	mm			inch			
Divi.	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
А	4.40		4.60	0.173		0.181	
С	1.23		1.32	0.048		0.051	
D	2.40		2.72	0.094		0.107	
D1		1.27			0.050		
E	0.49		0.70	0.019		0.027	
F	0.61		0.88	0.024		0.034	
F1	1.14		1.70	0.044		0.067	
F2	1.14		1.70	0.044		0.067	
G	4.95		5.15	0.194		0.203	
G1	2.4		2.7	0.094		0.106	
H2	10.0		10.40	0.393		0.409	
L2		16.4			0.645		
L4	13.0		14.0	0.511		0.551	
L5	2.65		2.95	0.104		0.116	
L6	15.25		15.75	0.600		0.620	
L7	6.2		6.6	0.244		0.260	
L9	3.5		3.93	0.137		0.154	
DIA.	3.75		3.85	0.147		0.151	

TO-220 MECHANICAL DATA



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