FAIRCHILD

SEMICONDUCTOR TM

BDX53/A/B/C

Hammer Drivers, Audio Amplifiers Applications Power Liner and Switching Applications

Power Darlington TR

Complement to BDX54, BDX54A, BDX54B and BDX54C respectively

NPN Epitaxial Silicon Transistor



1.Base 2.Collector 3.Emitter

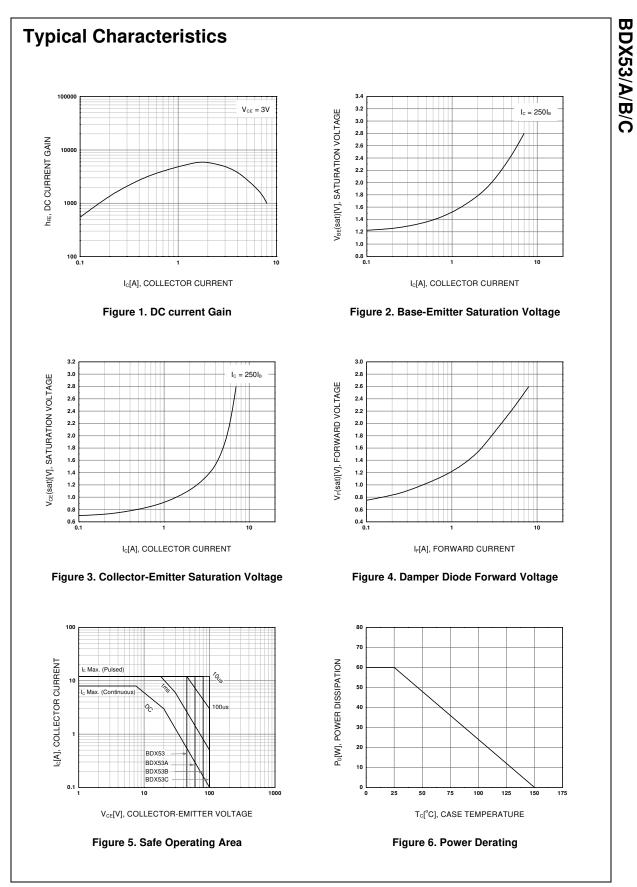
Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V _{CBO}	Collector-Base Voltage : BDX53	45	V
020	: BDX53A	60	V
	: BDX53B	80	V
	: BDX53C	100	V
V _{CEO}	Collector-Emitter Voltage : BDX53	45	V
	: BDX53A	60	V
	: BDX53B	80	V
	: BDX53C	100	V
V _{EBO}	Emitter-Base Voltage	5	V
I _C	Collector Current (DC)	8	Α
I _{CP}	*Collector Current (Pulse)	12	Α
I _B	Base Current	0.2	Α
I _B P _C	Collector Dissipation (T _C =25°C)	60	W
TJ	Junction Temperature	150	°C
T _{STG}	Storage Temperature	- 65 ~ 150	°C

Electrical Characteristics T_C=25°C unless otherwise noted

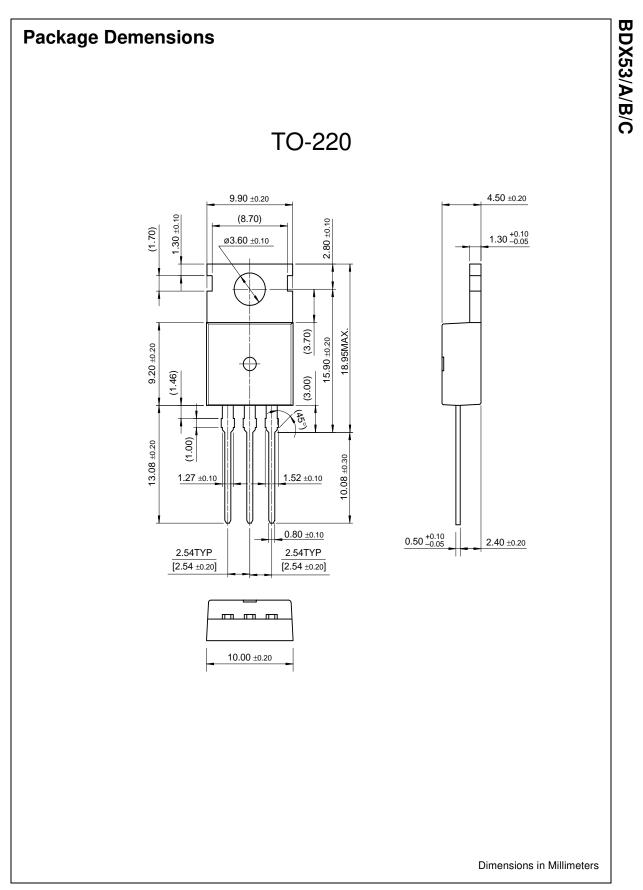
Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Units
V _{CEO} (sus)	* Collector-Emitter Sustaining Voltage					
	: BDX53	I _C = 100mA, I _B = 0	45			V
	: BDX53A		60			V
	: BDX53B		80			V
	: BDX53C		100			V
I _{CBO}	Collector Cut-off Current : BDX53	V _{CB} = 45V, I _E = 0			200	μA
	: BDX53A	$V_{CB} = 60V, I_E = 0$			200	μA
	: BDX53B	$V_{CB} = 80V, I_{E} = 0$			200	μA
	: BDX53C	$V_{CB} = 100V, I_E = 0$			200	μA
I _{CEO}	Collector Cut-off Current : BDX53	$V_{CE} = 22V, I_B = 0$			500	μA
	: BDX53A	$V_{CE} = 30V, I_B = 0$			500	μA
	: BDX53B	$V_{CE} = 40V, I_{B} = 0$			500	μA
	: BDX53C	$V_{CE} = 50V, I_B = 0$			500	μA
I _{EBO}	Emitter Cut-off Current	$V_{EB} = 5V, I_{C} = 0$			2	mA
h _{FE}	* DC Current Gain	$V_{CE} = 3V, I_{C} = 3A$	750			
V _{CE} (sat)	* Collector-Emitter Saturation Voltage	I _C = 3A, I _B = 12mA			2	V
V _{BE} (sat)	* Base-Emitter Saturation Voltage	I _C = 3A, I _B = 12mA			2.5	V
V _F	* Parallel Diode Forward Voltage	I _F = 3A		1.8	2.5	V
		I _F = 8A		2.5		V

©2000 Fairchild Semiconductor International



©2000 Fairchild Semiconductor International

Rev. A, February 2000



TRADEMARKS

The following are registered and unregistered trademarks Fairchild Semiconductor owns or is authorized to use and is not intended to be an exhaustive list of all such trademarks.

ACEx[™] Bottomless[™] CoolFET[™] CROSSVOLT[™] E²CMOS[™] FACT[™] FACT Quiet Series[™] FAST[®] FAST[®] FASTr[™] GTO[™] HiSeC[™] ISOPLANAR[™] MICROWIRE[™] POP[™] PowerTrench[®] QFET[™] QS[™] Quiet Series[™] SuperSOT[™]-3 SuperSOT[™]-6

SuperSOT™-8 SyncFET™ TinyLogic™ UHC™ VCX™

DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

LIFE SUPPORT POLICY

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF FAIRCHILD SEMICONDUCTOR INTERNATIONAL.

As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, or (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.

2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.

Fairchild Semiconductor				SSEARCH Paran	<u>metric Cro</u>	<u>DE</u>	
find products	Home >> Find pro	pducts >>					
Products groups Analog and Mixed	BDX53B NPN Epitaxial Sili	icon Transistor				ted Links	
Signal Discrete Interface	Contents <u>Features</u> <u>Product</u>	st status/pricing/packa	nging <u>Dow</u>	asheet vnload this_ isheet	How Dott	to order products ed line ed line uct Change Notices	
<u>Logic</u> <u>Microcontrollers</u> <u>Non-Volatile</u> <u>Memory</u>	Features			PDF <u>e-mail this datasheet</u> [E- This page <u>Print version</u>		(PCNs) Dotted line Support Dotted line Distributor and field sales representatives Dotted line Quality and reliability Dotted line	
<u>Optoelectronics</u> <u>Markets and</u> <u>applications</u> <u>New products</u> Product selection and		lington TR ent to BDX54, BDX54 and BDX54C respectiv	4A, vely This				
parametric search Cross-reference	back to top				<u>Desi</u> g	<u>gn tools</u>	
search	Product status/pric	cing/packaging					
technical information	Product	Product status	Pricing*	Package type	Leads	Packing method	
buy products	BDX53BTU	Full Production	\$0.349	TO-220	3	RAIL	
technical support	* 1,000 piece Bud	getary Pricing					
my Fairchild	hack to top						

back to top

company

<u>Home</u> | <u>Find products</u> | <u>Technical information</u> | <u>Buy products</u> | <u>Support</u> | <u>Company</u> | <u>Contact us</u> | <u>Site index</u> | <u>Privacy policy</u>

© Copyright 2002 Fairchild Semiconductor

Fairchild Semiconductor				SEARCH Parar	metric Cro	<u>)</u>		
find products	Home >> Find pro	ducts >>						
Products groups Analog and Mixed	BDX53A NPN Epitaxial Sili	con Transistor				ted Links		
Signal Discrete Interface	Contents <u>Features</u> <u>Product</u>	ging <u>Dov</u>	Datasheet Download this datasheet		Request samples Dotted line How to order products Dotted line Product Change Notices			
Logic Microcontrollers Non-Volatile	Features		PD	PDF		(PCNs) Dotted line Support		
<u>Memory</u> <u>Optoelectronics</u> <u>Markets and</u> <u>applications</u>	-	lington TR nt to BDX54, BDX54 nd BDX54C respectiv	4A,		Distri	ed line ributor and field sales esentatives ed line		
New products Product selection and		a DDite ie respira.		s page nt version	Dotte	ity and reliability ad line gn tools		
parametric search Cross-reference search	back to top	· (]			-			
<u>Search</u>	Product status/pric	ing/packaging						
technical information	Product	Product status	Pricing*	Package type	Leads	Packing method		
buy products	BDX53ATU	Full Production	\$0.349	TO-220	3	RAIL		
technical support	* 1,000 piece Budg	getary Pricing						
my Fairchild	back to top							

<u>Home</u> | <u>Find products</u> | <u>Technical information</u> | <u>Buy products</u> | <u>Support</u> | <u>Company</u> | <u>Contact us</u> | <u>Site index</u> | <u>Privacy policy</u>

© Copyright 2002 Fairchild Semiconductor

back to top

.

company

Fairchild Semiconductor				SSEARCH Para	metric <u>Cr</u>	30
find products Products groups Analog and Mixed Signal Discrete Interface Logic Microcontrollers Non-Volatile Memory Optoelectronics Markets and applications New products Product selection and parametric search Cross-reference	Features Power Da Complem BDX54B 	ilicon Transistor ct status/pricing/packa rlington TR ent to BDX54, BDX5 and BDX54C respect	aging <u>Da</u> da <u>da</u> P P <u>e-1</u> [] 4A, ively Th	ttasheet <u>ownload this</u> tasheet DF mail this datasheet	Rela Requ Data How Prod (PCI Data Dist repre Qual Data	ated Links uest samples ted line / to order products ted line luct Change Notices Ns) ted line
search technical information	Product status/pr					
	Product	Product status	Pricing*	Package type	Leads	Packing method
buy products technical support my Fairchild	BDX53TU * 1,000 piece Bu	Full Production dgetary Pricing	\$0.349	TO-220	3	RAIL

<u>Home</u> | <u>Find products</u> | <u>Technical information</u> | <u>Buy products</u> | <u>Support</u> | <u>Company</u> | <u>Contact us</u> | <u>Site index</u> | <u>Privacy policy</u>

© Copyright 2002 Fairchild Semiconductor

company

Fairchild Semiconductor				SEARCH Paran	metric <u>Cro</u>	<u> </u>	
find products Products groups	Home >> Find pro BDX53C				Rela	ted Links	
Analog and Mixed Signal Discrete Interface	NPN Epitaxial Sili Contents <u>Features</u> <u>Product</u>	t status/pricing/packag	ging Dov	asheet vnload this_ isheet	Dott How	ed line order products od line uct Change Notices	
Logic Microcontrollers Non-Volatile Memory	Features		PI e-m	DF ail this datasheet	(PCN Dott Supp	<u>Vs)</u> ed line	
Optoelectronics Markets and applications		ington TR nt to BDX54, BDX54 nd BDX54C respectiv	A,		Distr repre	ributor and field sales esentatives ed line ity and reliability	
<u>New products</u> <u>Product selection and</u> <u>parametric search</u> <u>Cross-reference</u>	back to top		<u>Prir</u>	nt version	Dott	gn tools	
search	Product status/pric	ing/packaging					
technical information	Product	Product status	Pricing*	Package type	Leads	Packing method	
buy products	BDX53C	Full Production	\$0.349	TO-220	3	BULK	
technical support	BDX53CTU	Full Production	\$0.349	TO-220	3	RAIL	
THE PERSON AND A DESCRIPTION OF A DESCRI	* 1,000 piece Pudestany Pricing						

* 1,000 piece Budgetary Pricing

back to top

my Fairchild

company

<u>Home</u> | <u>Find products</u> | <u>Technical information</u> | <u>Buy products</u> | <u>Support</u> | <u>Company</u> | <u>Contact us</u> | <u>Site index</u> | <u>Privacy policy</u>

© Copyright 2002 Fairchild Semiconductor