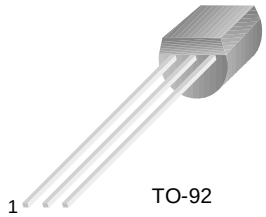
FAIRCHILD
SEMICONDUCTOR®

MPSA77

PNP Darlington Transistor

- This device is designed for applications requiring extremely high current gain at currents to 800mA.
- Sourced from process 61.



TO-92

1. Emitter 2. Base 3. Collector

Absolute Maximum Ratings * T_a=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CES}	Collector-Emitter Voltage	-60	V
V_{CBO}	Collector-Base Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-10	V
I_C	Collector Current - Continuous	-1.2	A
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 ~ +150	°C

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:
1. These ratings are based on a maximum junction temperature of 150 degrees C.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Electrical Characteristics T_a=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
Off Characteristics					
$V_{(BR)CES}$	Collector-Emitter Breakdown Voltage	I_C = -100μA, I_B = 0	-60		V
I_{CBO}	Collector Cutoff Current	V_{CB} = -30V, I_E = 0		-100	nA
I_{EBO}	Emitter Cutoff Current	V_{EB} = -10V, I_C = 0		-100	nA
On Characteristics *					
h_{FE}	DC Current Gain	I_C = -10mA, V_{CE} = -5.0V I_C = -100mA, V_{CE} = -5.0V	10,000 10,000		
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = -100mA, I_B = -0.1mA		-1.5	V
V_{BE}(on)	Base-Emitter On Voltage	I_C = -100mA, V_{CE} = -5.0mA		-2.0	V
Small Signal Characteristics *					
f_T	Current Gain Dandwidth Product	I_C = -10mA, V_{CE} = -5.0V f = 100MHz	100		MHz

* Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2.0%

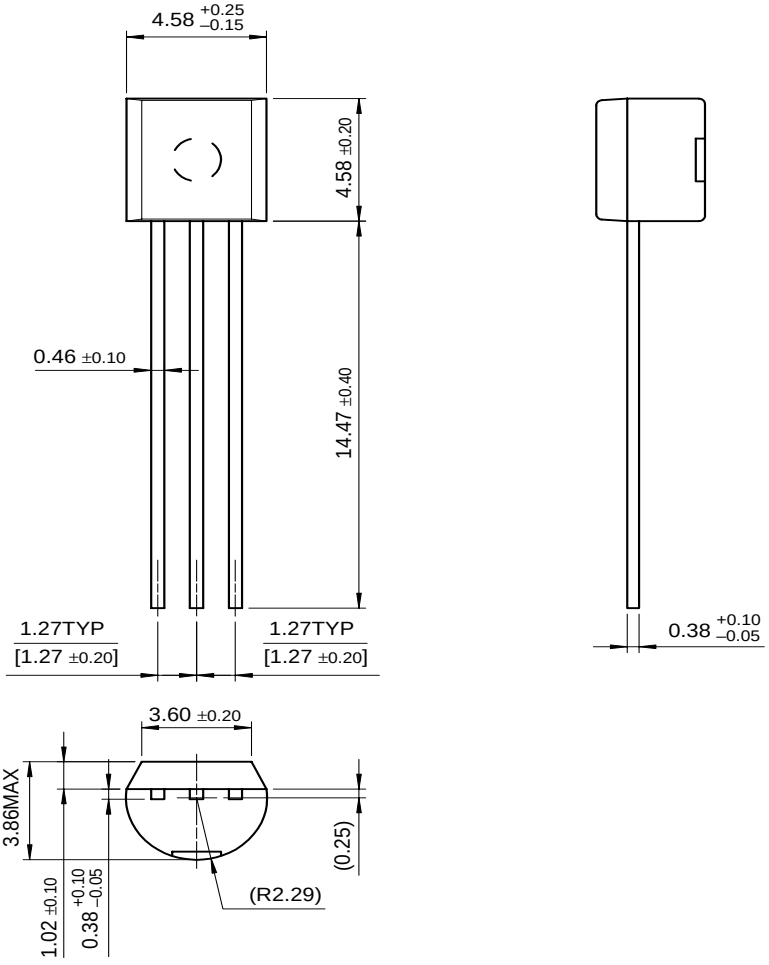
Thermal Characteristics T_a=25°C unless otherwise noted

Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation Derate above 25°C	625 5.0	mW mW/°C
$R_{\theta JC}$	Thermal Resistance, Junction to Case	83.3	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	200	°C/W

©2003 Fairchild Semiconductor Corporation

Package Dimensions

TO-92



Dimensions in Millimeters

©2003 Fairchild Semiconductor Corporation

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™
ActiveArray™
Bottomless™
CoolFET™
CROSSVOLT™
DOME™
EcoSPARK™
E^2CMOS™
EnSigna™
FACT™
FACT Quiet Series™
FAST®
FASTr™
FRFET™
GlobalOptoisolator™
GTO™
HiSeC™
I^2C™
ImpliedDisconnect™
ISOPLANAR™
LittleFET™
MICROCOUPLER™
MicroFET™
MicroPak™
MICROWIRE™
MSX™
MSXPro™
OCX™
OCXPro™
OPTOLOGIC®
OPTOPLANAR™
PACMAN™
POP™
Power247™
PowerTrench®
QFET®
QS™
QT Optoelectronics™
Quiet Series™
RapidConfigure™
RapidConnect™
SILENT SWITCHER®
SMART START™
SPM™
Stealth™
SuperSOT™-3
SuperSOT™-6
SuperSOT™-8
SyncFET™
TinyLogic®
TINYOPTO™
TruTranslation™
UHC™
UltraFET®
VCX™
Across the board. Around the world.™
The Power Franchise™
Programmable Active Droop™

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 CORPORATION.

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.

©2003 Fairchild Semiconductor Corporation

MPSA77

PNP Darlington Transistor

Contents

Features

- This device is designed for applications requiring extremely high current gain at currents to 800mA.
- Sourced from process 61.

back to top

BUY

Datasheet

Download this datasheet

e-mail this datasheet

This page

Print version

Related Links

- Request samples
- How to order products
- Product Change Notices (PCNs)
- Support
- Sales support
- Quality and reliability
- Design center

Product status/pricing/packaging BUY

Product	Product status	Pb-free Status	Pricing*	Package type	Leads	Packing method	Package Marking Convention**
MPSA77	Full Production	Full Production	$0.056	TO-92	3	BULK	Line 1: **$Y** (Fairchild logo) &**Z** (Asm. Plant Code) &**3** (3-Digit Date Code) Line 2: MPS Line 3: A77
MPSA77_D26Z	Full Production	Full Production	N/A	TO-92	3	TAPE REEL	Line 1: **$Y** (Fairchild logo) &**Z** (Asm. Plant Code) &**3** (3-Digit Date Code) Line 2: MPS Line 3: A77
MPSA77_D74Z	Full Production	Full Production	N/A	TO-92	3	AMMO	Line 1: **$Y** (Fairchild logo) &**Z** (Asm. Plant Code) &**3** (3-Digit Date Code) Line 2: MPS Line 3: A77
MPSA77_D75Z	Full Production		N/A	TO-92	3	AMMO	Line 1: **$Y** (Fairchild logo) &**Z** (Asm. Plant Code)

		Full Production					&**3** (3-Digit Date Code) Line 2: MPS Line 3: A77

* Fairchild 1,000 piece Budgetary Pricing
** A sample button will appear if the part is available through Fairchild's on-line samples program. If there is no sample button, please contact a Fairchild distributor to obtain samples

Indicates product with Pb-free second-level interconnect. For more information click here.

Package marking information for product MPSA77 is available. Click here for more information .

back to top

Qualification Support

Click on a product for detailed qualification data

Product
MPSA77
MPSA77_D26Z
MPSA77_D74Z
MPSA77_D75Z

back to top

© 2007 Fairchild Semiconductor