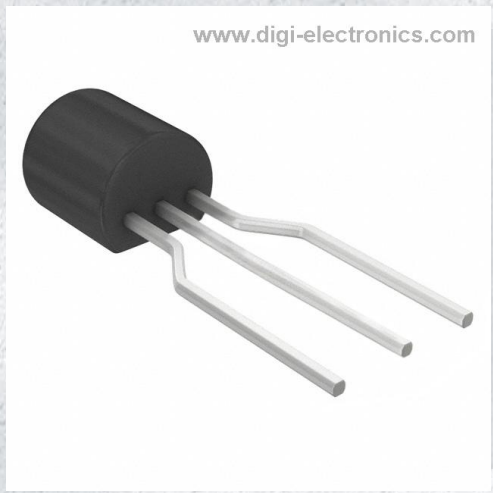
MPSA77_D74Z Datasheet



https://www.DiGi-Electronics.com

DiGi Electronics Part Number	MPSA77_D74Z-DG
Manufacturer	onsemi
Manufacturer Product Number	MPSA77_D74Z
Description	TRANS PNP DARL 60V 1.2A TO92-3
Detailed Description	Bipolar (BJT) Transistor PNP - Darlington 60 V 1.2 A 100MHz 625 mW Through Hole TO-92-3

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
MPSA77_D74Z	onsemi
Series:	Product Status:
-	Obsolete
Transistor Type:	Current - Collector (Ic) (Max):
PNP - Darlington	1.2 A
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
60 V	1.5V @ 100µA, 100mA
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
100nA (ICBO)	10000 @ 100mA, 5V
Power - Max:	Frequency - Transition:
625 mW	100MHz
Operating Temperature:	Mounting Type:
-55°C ~ 150°C (TJ)	Through Hole
Package / Case:	Supplier Device Package:
TO-226-3, TO-92-3 (TO-226AA) Formed Leads	TO-92-3
Base Product Number:	
MPSA77	

Environmental & Export classification

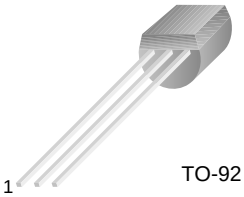
Moisture Sensitivity Level (MSL):	REACH Status:
1 (Unlimited)	REACH Unaffected
ECCN:	HTSUS:
EAR99	8541.21.0075

FAIRCHILD SEMICONDUCTOR®

March 2009

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.

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

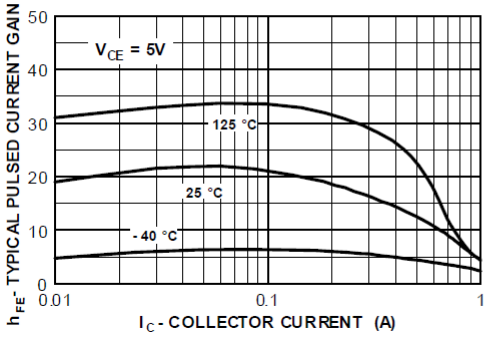
Electrical Characteristics T_a=25°C unless otherwise noted

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

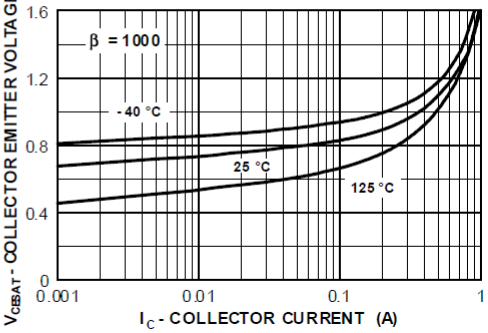
* Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2.0%

Typical Performance Characteristics

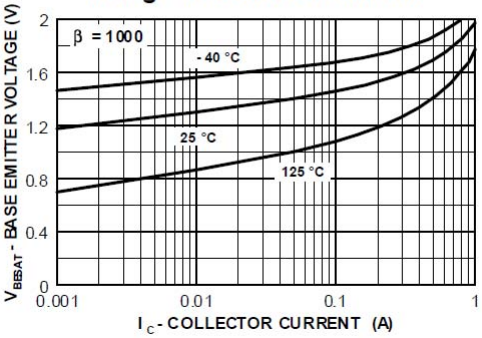
Typical Pulsed Current Gain vs Collector Current



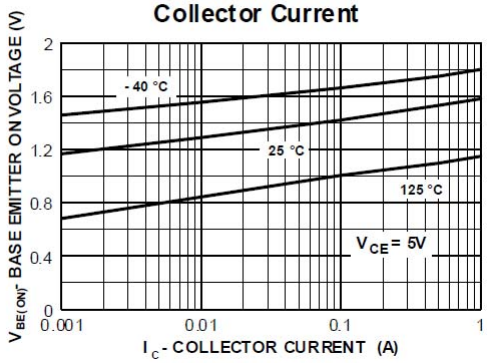
Collector-Emitter Saturation Voltage vs Collector Current



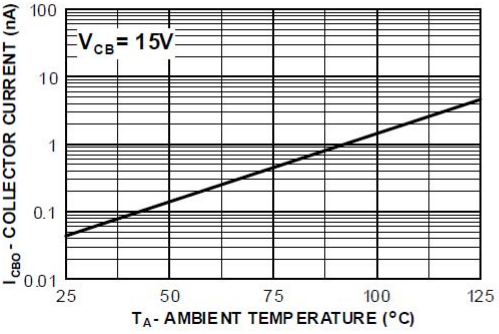
Base-Emitter Saturation Voltage vs Collector Current



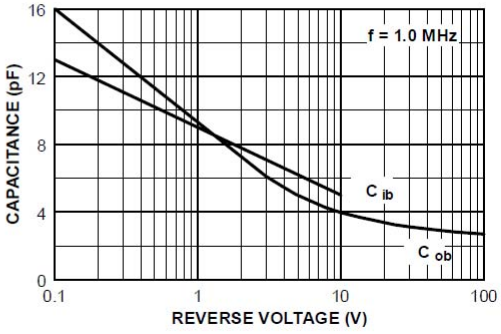
Base Emitter ON Voltage vs Collector Current



Collector-Cutoff Current vs Ambient Temperature

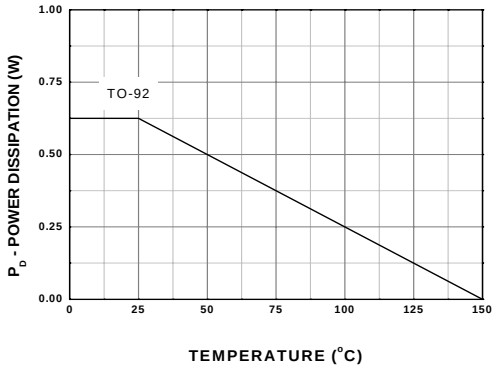


Input and Output Capacitance vs Reverse Bias Voltage

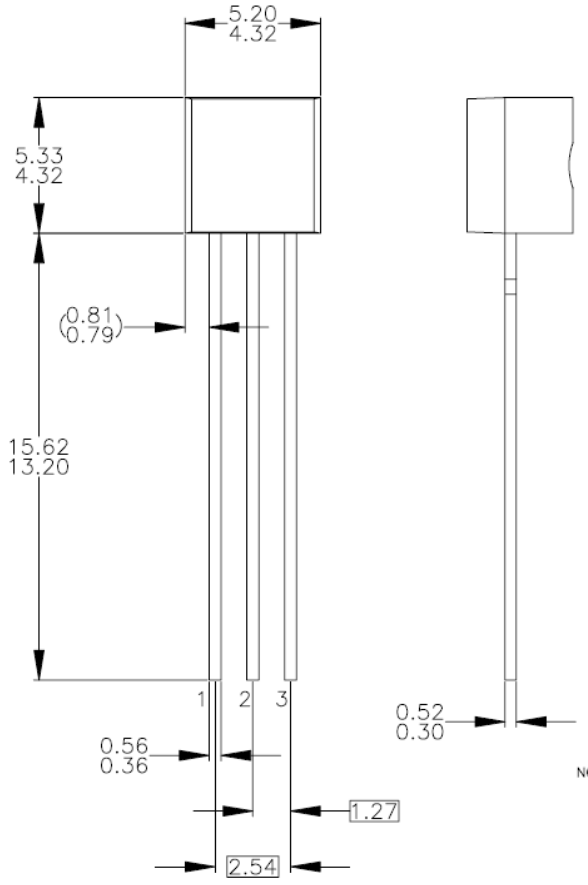


Typical Performance Characteristics (Continued)

Power Dissipation vs Ambient Temperature



Mechanical Dimensions (TO-92)



NOTES: UNLESS OTHERWISE SPECIFIED

A) DRAWING WITH REFERENCE TO JEDEC TO-92 RECOMMENDATIONS.
B) ALL DIMENSIONS ARE IN MILLIMETERS.
C) DRAWING CONFORMS TO ASME Y14.5M-1994.
D) TO-92 (92,94,96,97,98) PIN CONFIGURATION:

PIN	92			94			96			97			98		
	P	F	M	P	F	M	B	F	M	P	F	M	P	F	M
1	E	S	S	E	S	S	B	D	G	C	G	D	C	G	D
2	B	D	G	C	G	D	E	S	S	B	D	G	E	S	S
3	C	G	D	B	D	G	C	G	D	E	S	S	B	D	G

LEGEND:
P – BIPOLAR
F – JFET
M – DMOS
E – EMITTER
B – BASE
C – COLLECTOR
D – DRAIN
S – SOURCE
G – GATE

E) FOR PACKAGE 92, 94, 96, 97 AND 98: PIN CONFIGURATION DRAIN "D" AND SOURCE "S" ARE INTERCHANGEAGLE AT JFET "F" OPTION.
F) DRAWING FILENAME: MKT-ZA03DREV3.

Dimensions in Millimeters

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Datasheet Identification	Product Status	Definition
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Preliminary	First Production	Datasheet contains preliminary data; supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
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Obsolete	Not In Production	Datasheet contains specifications on a product that is discontinued by Fairchild Semiconductor. The datasheet is for reference information only.

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