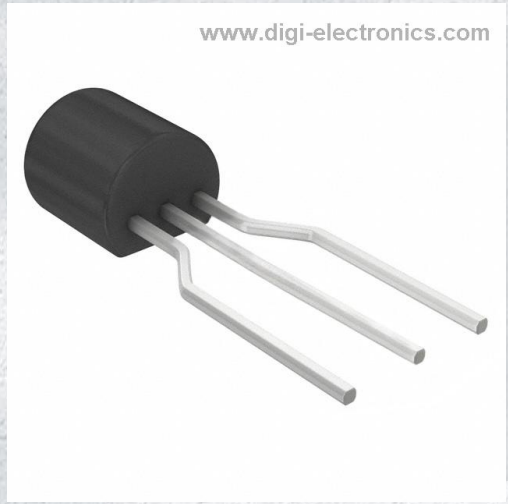
PN3643_D27Z Datasheet



DiGi Electronics Part Number	PN3643_D27Z-DG
Manufacturer	onsemi
Manufacturer Product Number	PN3643_D27Z
Description	TRANS NPN 30V 0.5A TO92-3
Detailed Description	Bipolar (BJT) Transistor NPN 30 V 500 mA 625 mW T hrough Hole TO-92-3

https://www.DiGi-Electronics.com

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RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
PN3643_D27Z	onsemi
Series:	Product Status:
-	Obsolete
Transistor Type:	Current - Collector (Ic) (Max):
NPN	500 mA
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
30 V	220mV @ 15mA, 150mA
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
50nA	100 @ 150mA, 10V
Power - Max:	Frequency - Transition:
625 mW	-
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:	
PN364	

Environmental & Export classification

Moisture Sensitivity Level (MSL):	REACH Status:
1 (Unlimited)	REACH Unaffected
ECCN:	HTSUS:
EAR99	8541.21.0095

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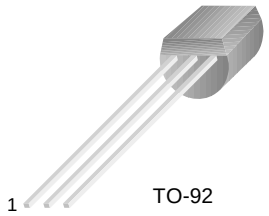
PN3643

NPN General Purpose Amplifier

- This device is designed for use as general purpose amplifiers and switches requiring collector currents to 300mA.



TO-92

1. Emitter 2. Base 3. Collector

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

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	30	V
V_{CBO}	Collector-Base Voltage	60	V
V_{EBO}	Emitter-Base Voltage	5.0	V
I_C	Collector Current - Continuous	500	mA
$T_{J,}$ 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 impaird.

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					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage *	I_C = 10mA, I_B = 0	30		V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C = 10μA, I_E = 0	60		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E = 10μA, I_C = 0	5.0		V
I_{CES}	Collector Cut-off Current	V_{CB} = 50V, I_E = 0 V_{CB} = 50V, I_E = 0, T_A = 65°C		50 1.0	nA μA
On Characteristics					
h_{FE}	DC Current Gain	V_{CE} = 10V, I_C = 150mA V_{CE} = 10V, I_C = 500mA	100 20	300	
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = 150mA, I_B = 15mA		0.22	V
Small Signal Characteristics					
C_{ob}	Output Capacitance	V_{CB} = 10V, f = 140KHz		8.0	pF
η	Collector Efficientcy	V_{CE} = 15V, f = 30MHz R_G = 140Ω, R_L = 260Ω	60		%
G_{pe}	Amplifier Power Gain	V_{CE} = 15V, f = 30MHz R_G = 140Ω, R_L = 260Ω	10		dB
h_{fe}	Small Signal Current Gain	I_C = 50mA, V_{CE} = 5.0V, f = 100MHz	2.5		

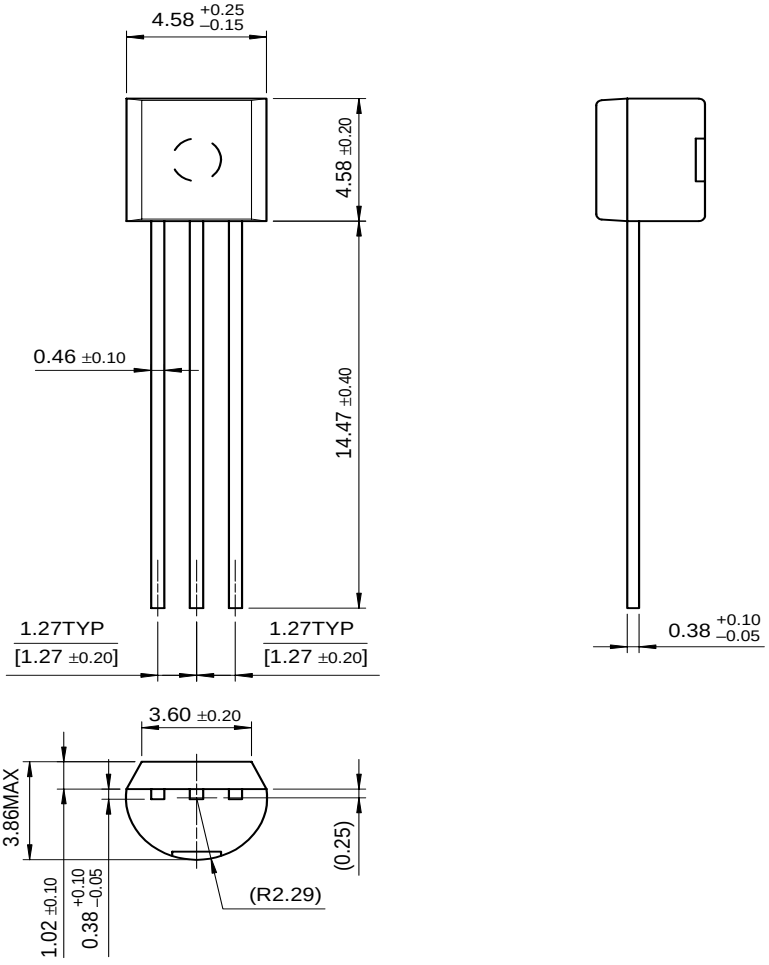
* Pulse Test: Pulse Width ≤ 300ms, Duty Cycle ≤ 2.0%

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

Package Dimensions

TO-92



Dimensions in Millimeters

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CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
E^2CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I^2C™	OCX™	RapidConfigure™	UHC™
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Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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Definition of Terms

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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.

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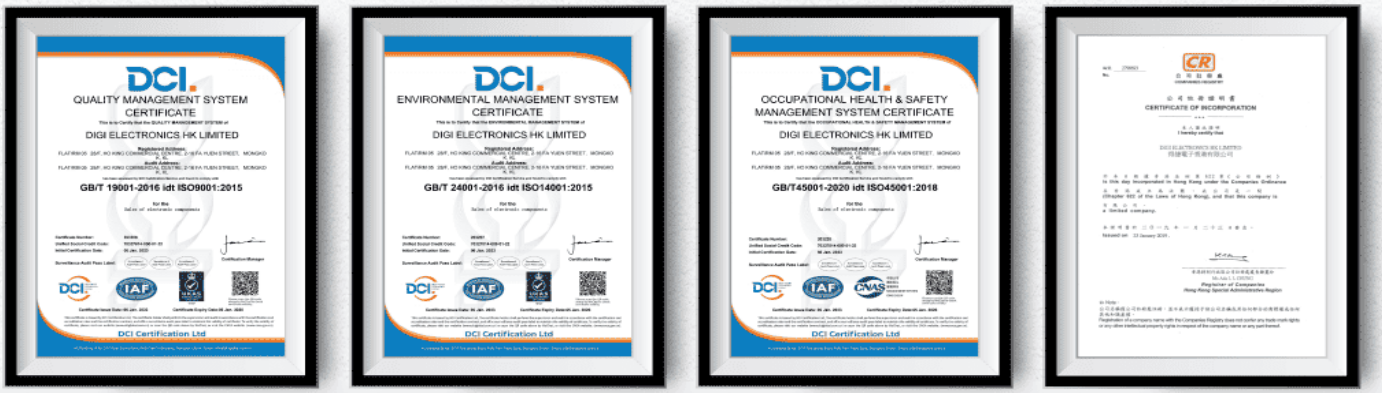

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