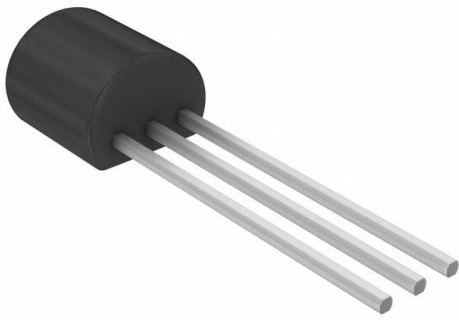


ZTX790ASTZ Datasheet

www.digi-electronics.com



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	ZTX790ASTZ-DG
Manufacturer	Diodes Incorporated
Manufacturer Product Number	ZTX790ASTZ
Description	TRANS PNP 40V 2A E-LINE
Detailed Description	Bipolar (BJT) Transistor PNP 40 V 2 A 100MHz 1 W Th rough Hole E-Line (TO-92 compatible)



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:

ZTX790ASTZ

Series:

-

Transistor Type:

PNP

Voltage - Collector Emitter Breakdown (Max):

40 V

Current - Collector Cutoff (Max):

100nA (ICBO)

Power - Max:

1 W

Operating Temperature:

-55°C ~ 200°C (TJ)

Package / Case:

E-Line-3, Formed Leads

Base Product Number:

ZTX790

Manufacturer:

Diodes Incorporated

Product Status:

Active

Current - Collector (Ic) (Max):

2 A

Vce Saturation (Max) @ Ib, Ic:

750mV @ 50mA, 2A

DC Current Gain (hFE) (Min) @ Ic, Vce:

300 @ 10mA, 2V

Frequency - Transition:

100MHz

Mounting Type:

Through Hole

Supplier Device Package:

E-Line (TO-92 compatible)

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.29.0075

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

PNP SILICON PLANAR MEDIUM POWER HIGH GAIN TRANSISTOR

ZTX790A

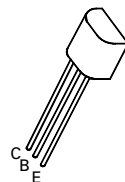
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FEATURES

- * 40 Volt V_{CEO}
- * Gain of 200 at $I_C=1$ Amps
- * Very low saturation voltage

APPLICATIONS

- * Darlington replacement
- * Siren driver
- * Battery powered circuits
- * Motor drivers



**E-Line
TO92 Compatible**

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-40	V
Emitter-Base Voltage	V_{EBO}	-5	V
Peak Pulse Current	I_{CM}	-6	A
Continuous Collector Current	I_C	-2	A
Practical Power Dissipation*	P_{totp}	1.5	W
Power Dissipation at $T_{amb}=25^{\circ}C$ derate above $25^{\circ}C$	P_{tot}	1 5.7	W mW/ $^{\circ}C$
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +200	$^{\circ}C$

*The power which can be dissipated assuming the device is mounted in a typical manner on a P.C.B. with copper equal to 1 inch square minimum

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-50			V	$I_C=-100\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-40			V	$I_C=-10mA^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	$I_E=-100\mu A$
Collector Cut-Off Current	I_{CBO}			-0.1	μA	$V_{CB}=-30V$
Emitter Cut-Off Current	I_{EBO}			-0.1	μA	$V_{EB}=-4V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.25 -0.45 -0.75	V	$I_C=500mA, I_B=5mA^*$ $I_C=1A, I_B=10mA^*$ $I_C=2A, I_B=50mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			-1.0	V	$I_C=1A, I_B=10mA^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		-0.75		V	$I_C=-1A, V_{CE}=-2V^*$
Static Forward Current Transfer Ratio	h_{FE}	300 250 200 150		800		$I_C=10mA, V_{CE}=-2V$ $I_C=500mA, V_{CE}=-2V^*$ $I_C=1A, V_{CE}=-2V^*$ $I_C=2A, V_{CE}=-2V^*$

ZTX790ASTZ Diodes Incorporated TRANS PNP 40V 2A E-LINE

ZTX790A

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$)

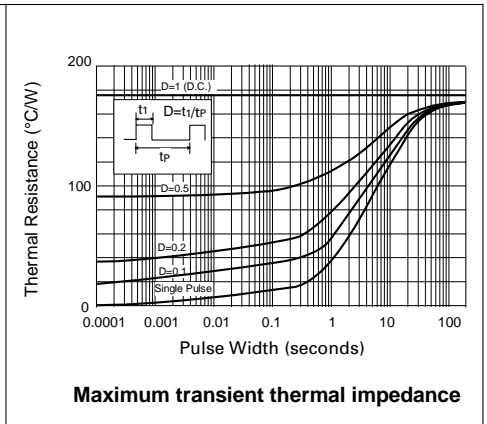
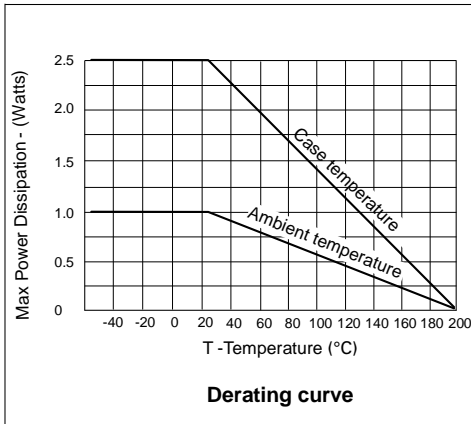
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Transition Frequency	f_T	100			MHz	$I_C = -50\text{mA}$, $V_{CE} = -5\text{V}$ $f = 50\text{MHz}$
Input Capacitance	C_{ibo}		225		pF	$V_{EB} = -0.5\text{V}$, $f = 1\text{MHz}$
Output Capacitance	C_{obo}		24		pF	$V_{CB} = -10\text{V}$, $f = 1\text{MHz}$
Switching Times	t_{on} t_{off}		35 600		ns ns	$I_C = -500\text{mA}$, $I_{B1} = -50\text{mA}$ $I_{B2} = -50\text{mA}$, $V_{CC} = -10\text{V}$

*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$

THERMAL CHARACTERISTICS

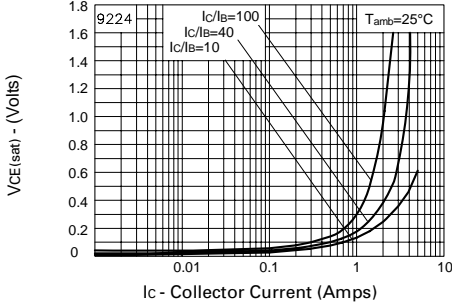
PARAMETER	SYMBOL	MAX.	UNIT
Thermal Resistance: Junction to Ambient ₁	$R_{th(j-amb)1}$	175	$^{\circ}\text{C/W}$
Junction to Ambient ₂	$R_{th(j-amb)2}^{\dagger}$	116	$^{\circ}\text{C/W}$
Junction to Case	$R_{th(j-case)}$	70	$^{\circ}\text{C/W}$

\dagger Device mounted on P.C.B. with copper equal to 1 sq. Inch minimum.

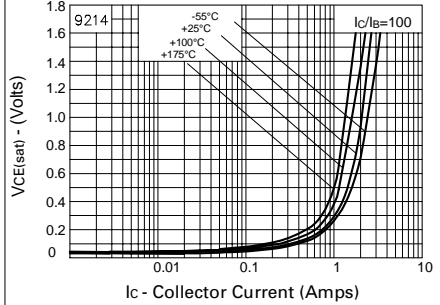


ZTX790A

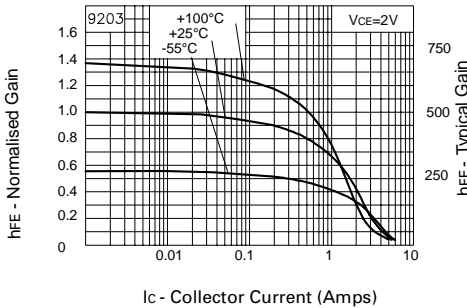
TYPICAL CHARACTERISTICS



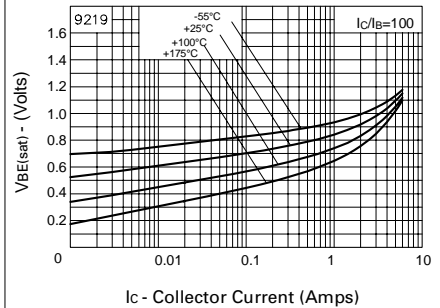
$V_{CE(sat)}$ v I_C



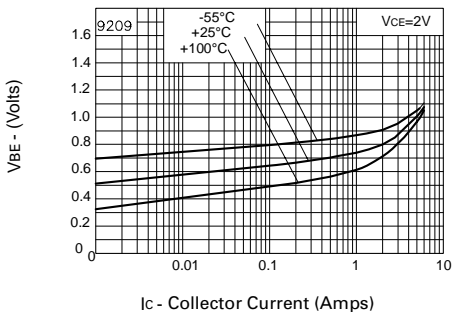
$V_{CE(sat)}$ v I_C



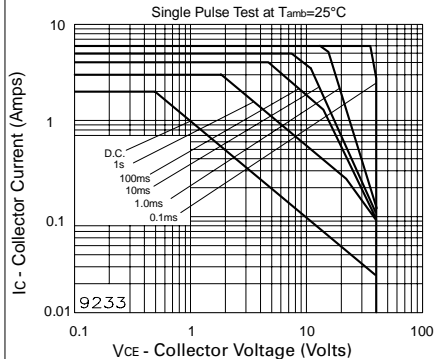
h_{FE} v I_C



$V_{BE(sat)}$ v I_C



$V_{BE(on)}$ v I_C



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