

NPN SILICON PLANAR HIGH SPEED SWITCHING TRANSISTORS

**ZTX320 ZTX321
ZTX322 ZTX323**

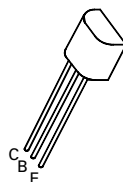
ISSUE 3 – APRIL 94

FEATURES

- * 15 Volt V_{CE0}
- * $f_T=600$ MHz

APPLICATIONS

- * VHF/UHF operation



**E-Line
TO92 Compatible**

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	15	V
Emitter-Base Voltage	V_{EBO}	3	V
Base Current	I_B	100	mA
Continuous Collector Current	I_C	500	mA
Power Dissipation at $T_{amb}=25^{\circ}C$	P_{tot}	300	mW
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +175	$^{\circ}C$

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

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	30		V	$I_C=10\mu A, I_E=0$
Collector-Emitter Sustaining Voltage	$V_{CE0(SUS)}$	15		V	$I_C=10mA, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	3		V	$I_E=10\mu A, I_C=0$
Collector Cut-Off Current	I_{CBO}		0.01	μA	$V_{CB}=15V, I_E=0$
Emitter Cut-Off Current	I_{EBO}		0.2	μA	$V_{EB}=2V, I_C=0$
Collector-Emitter Saturation Voltage ZTX320, ZTX322 ZTX323 ZTX321	$V_{CE(sat)}$		0.4	V	$I_C=10mA, I_B=1mA$
			0.4	V	$I_C=10mA, I_B=1mA$
			0.4	V	$I_C=3mA, I_B=0.3mA$
Base-Emitter Saturation Voltage ZTX320, ZTX322 ZTX321	$V_{BE(sat)}$		1.0	V	$I_C=10mA, I_B=1mA$
			1.0	V	$I_C=10mA, I_B=1mA$
			1.0	V	$I_C=3mA, I_B=0.3mA$
Static Forward Current Transfer Ratio ZTX320, ZTX321 ZTX322 ZTX323	h_{FE}	20	300		$I_C=3mA, V_{CE}=1V$
		20	150		$I_C=3mA, V_{CE}=1V$
		100	300		$I_C=3mA, V_{CE}=1V$
Output Capacitance	C_{obo}		1.7	pF	$V_{CB}=10V, f=1MHz$
Input Capacitance	C_{ibo}		1.6	pF	$V_{EB}=0.5V, f=1MHz$
Transition Frequency at $f=100MHz$	f_T	600 400		MHz MHz	$I_C=4mA, V_{CE}=10V$ $I_C=30mA, V_{CE}=10V$
Noise Figure	N		6	dB	$I_E=1mA, V_{CE}=6V$ $R_S=400\Omega, f=60MHz$
Power Gain	g_{pe}		typical 15	dB	$I_C=6mA, V_{CB}=12V$ $f=200MHz$

ZTX320 ZTX321 **ZTX322 ZTX323**

TYPICAL CHARACTERISTICS

