

NPN SILICON PLANAR HIGH SPEED SWITCHING TRANSISTORS

**ZTX320 ZTX321
ZTX322 ZTX323**

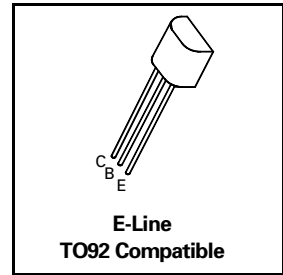
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FEATURES

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

APPLICATIONS

- * VHF/UHF operation



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 $T_{amb}=25^\circ\text{C}$	P_{tot}	300	mW
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +175	$^\circ\text{C}$

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

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

ZTX320 ZTX321
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TYPICAL CHARACTERISTICS

