NPN SILICON PLANAR HIGH SPEED SWITCHING TRANSISTORS

ZTX320 ZTX321 ZTX322 ZTX323

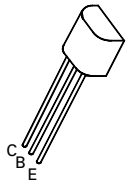
ISSUE 3 – APRIL 94

FEATURES

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

APPLICATIONS

* VHF/UHF operation



E-Line
TO92 Compatible

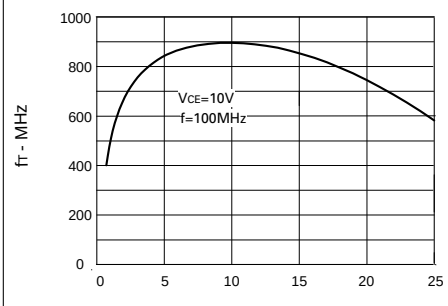
ABSOLUTE MAXIMUM RATINGS.

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°C	P_{tot}	300	mW
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +175	°C

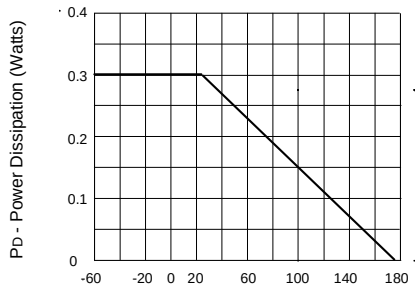
ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C).

PARAMETER		SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	30		V	I_C=10μA, I_E=0
Collector-Emitter Sustaining Voltage		$V_{CEO(SUS)}$	15		V	I_C=10mA, I_B=0
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	3		V	I_E=10μA, 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 0.4 0.4	V V V	I_C=10mA, I_B=1mA I_C=10mA, I_B=1mA I_C=3mA, I_B=0.3mA
Base-Emitter Saturation Voltage	ZTX320, ZTX322 ZTX323 ZTX321	$V_{BE(sat)}$		1.0 1.0 1.0	V V V	I_C=10mA, I_B=1mA I_C=10mA, I_B=1mA I_C=3mA, I_B=0.3mA
Static Forward Current Transfer Ratio	ZTX320, ZTX321 ZTX322 ZTX323	h_{FE}	20 20 100	300 150 300		I_C=3mA, V_{CE}=1V I_C=3mA, V_{CE}=1V 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=400Ω, f=60MHz
Power Gain		g_{pe}	typical 15		dB	I_C=6mA, V_{CB}=12V f=200MHz

TYPICAL CHARACTERISTICS



fT v Ic



Derating Curve