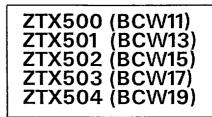
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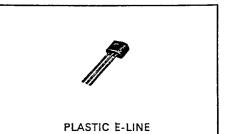


GENERAL DESCRIPTION

These plastic encapsulated transistors are designed for small and medium signal amplification from d.c. to radio frequencies. Typical application areas include: Audio Frequency Amplifiers, Drivers and Output Stages, Oscillators and General Purpose Switches.

These transistors are complementary to the ZTX300 series n-p-n transistors and electrically similar to the ZT180 series.

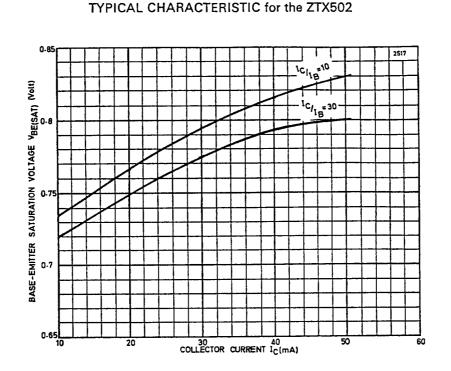
The ZTX500 series transistors have been APPROVED FOR USE IN MILITARY EQUIPMENT and are identified by the following numbers: BS.9365 F031-F035-Category P



ABSOLUTE MAXIMUM RATINGS

	Parameter	Symbol	ZTX500 (BCW11)	ZTX501 (BCW13)	ZTX502 (BCW15)	ZTX503 (BCW17)	ZTX504 (BCW19)	Units
	Collector-Base Voltage	V _{CBO}	-25	-35	-35	-45	70	Volts
	Collector-Emitter Voltage	V _{CEO}	-25	-35	35	45	-70	Volts
	Emitter-Base Voltage	V _{EB}	-5	-5	5	5	-5	Volts
A 101	Collector Current	I _C	500	-500	500	500	-500	mA
	Base Current	i _B	100	-100	-100	-100	100	mA
	Power Dissipation at $T_{amb} = 25 {}^{\circ}C$	P _{tot}	300	300	300	300	300	m₩
	Operating and Storage Temperature Range			•c				

ZTX500 Series



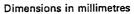
 $V_{\rm BE(sat)}/l_{\rm C}$

LEAD CONNECTIONS

The device can be supplied to the following lead configurations by using the indicated suffix.

Lead Configuration	Suffix
TO- 5 (SO-95)	К
TO-18 (SO-96)	L
Flat mounting (SO-97)	M

OUTLINE BS.3934.....SO-94 4_{66025} $1_{0,25}$ $1_{2,7}$ $1_{2,4}$ $1_{2,7}$ $1_{2,4}$ $1_{2,7}$ $1_{2,4}$ $1_{2,7}$ $1_{2,4}$ $1_{2,7}$ $1_{2,4}$ $1_{2,7}$ $1_{2,4}$ $1_{2,7}$ $1_{2,4}$ $1_{2,7}$ $1_{2,4}$ $1_{2,7}$ $1_{2,4}$



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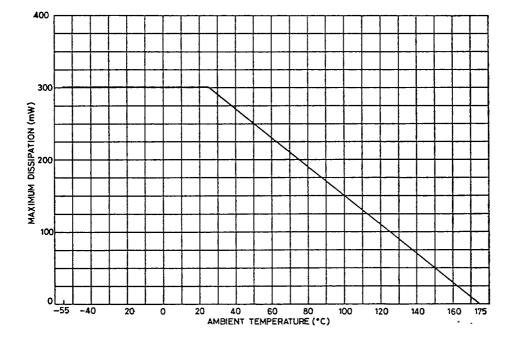
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ZTX500 Series

CHARACTERISTICS (at 25°C ambient temperature unless otherwise specified).

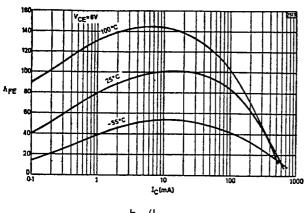
Parameter	Symbol	ZTX500 (BCW11)	ZTX501 (BCW 13)	ZTX502 (BCW 15)	ZTX503 (BCW17)	ZTX504 (BCW 19)	Units	Test Conditions
Max. Collector-base cut-off current	I _{СВО}	_0·2 	_0·2	_0.2	 0·2	 	μ 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	$V_{CB} = -25V$ $V_{CB} = -35V$ $V_{CB} = -45V$ $V_{CB} = -70V$
Maximum emitter-base cut-off current	I _{EBO}	-0.2	-0.2	-0.2	-0.2	-0·2	μA	$V_{EB} = -4V$
Minimum collector-emitter sustaining voltage	V _{CEO} (sus)	-25	-35	-35	-45	-70	V	$I_{\rm C} = -5 \rm mA$
Maximum collector-emitter saturation voltage	V _{CE} (sat)	-0.35	-0·25	-0·25	-0.35	-0.60	v	I _C =- 50 mA, I _B = -5 mA
Base-emitter saturation voltage Minimum Maximum	V _{BE(sat)}	0 · 65 -1 · 0	–0 · 65 –1 · 0	0 · 65 1 · 0	0 · 65 1 · 0	0 ·65 1 ·0	V V	$ I_{\rm C} = -10 \text{ mA, } I_{\rm B} = -1 \text{ mA} $
Static forward current transfer ratio Minimum Maximum Minimum Minimum	h _{FE}	50 300 —	50 300 —	100 300 20 50	50 300 —	50 300 —		$\begin{cases} I_{C} = -10 \text{ mA, } V_{CE} = -6V \\ I_{C} = -100 \mu\text{A, } V_{CE} = -6V \\ I_{C} = -50 \text{ mA, } V_{CE} = -6V \end{cases}$
Minimum transition frequency	fT	150	150	150	150	150	MHz	$I_{C} = -10 \text{ mA}, V_{CE} = -6V$ f = 100 MHz
Maximum output capacitance	Сово	6	6	6	6	6	pF	$V_{CB} = -6V$, f = 1 MHz
Typical noise figure	N	7	7	7	7	7	dB	$I_{c} = -100 \ \mu A, R_{s} = 1500\Omega$ f = 1 kHz

Derating Curve



ZTX500 Series

TYPICAL CHARACTERISTICS for the ZTX502

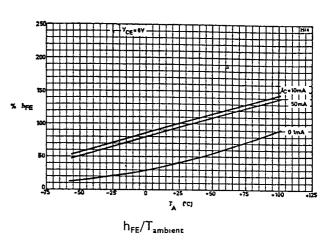


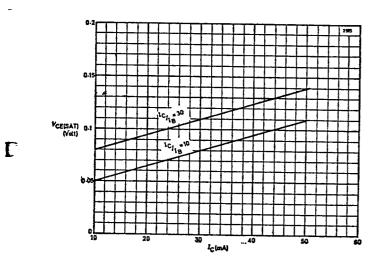
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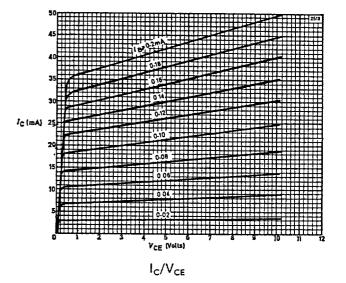
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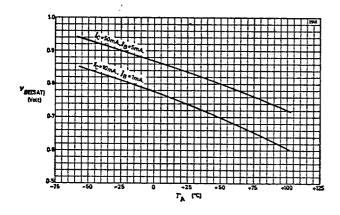




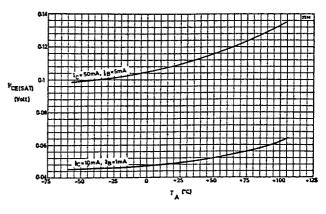


 $V_{CE(sat)}/I_{C}$





 $V_{BE(sat)}/T_{ambient}$



 $V_{CE(sat)}/T_{ambient}$

TABLE 2 : PNP GENERAL PURPOSE

signalithe devices shown in this table are general purpose transistors designed for small signal AUDIO mplification from d.c. to radio frequencies. Typical application areas include: AUDIO FREQUENCY VERAL MPLIFIERS, DRIVERS and OUTPUT STAGES, OSCILLATORS, AND GENERAL PURPOSE SWITCHES.

			· ·	Max	Max	Max V _{CE(sat)} at		h _{FE} at			Min f _T at		P _{tot} at	Complement
ement	Type		V _{CEO} V	l _C mA	v	I _C mA	I _B mA	Min	Max	I _C mA	MHz	l _c mA	T _{amb} = 25°C mW	Complement
ЗP	BC556P	80	65	200	0.25	10	0.5	75	450	2	150*	10	500	BC546P
)4	ZTX504	70	70	500	0.6	50	5	50	300	10	150	10	300	ZTX304
2P	ZTX212	60	50	200	0.25	10	0.5	60	400	2	200	10	500	ZTX107
12	BC212P	60	50	200	0.6	100	5	60	400	2	200	10	300	BC182P
'P	BC557P	50	45	200	0.25	10	0.5	75	450	2	150*	10	500	BC547P
Ρ'	BC177P	50	45	200	0.2	10	0.5	120	460	2	130	10	300	BC107P
'n	BC307P	50	45	200	0.2	10	0.5	120	460	2	130*	10	300	BC237P
2	ZTX503	45	45	500	0.35	50	5	50	300	10	150	10	300	ZTX303
)3	ZTX531	45	45	500	0.7	10	0.5	40	120	0.01	30	0.5	250	ZTX331
3	ZTX213	45	30	200	0.25	10	0.5	80	550	2	200	10	500	ZTX108
,P														
3	BC213P	45	30	200	0.6	100	5	80	600	2	200	10	300	BC183P
2	ZTX502	35	35	500	0.25	50	5	100	300	10	150	10	300	ZTX302
1	ZTX501	35	35	500	0.25	50	5	50	300	10	150	10	300	ZTX301
Р	ZTX530	30	30	500	0.7	10	0.5	100	400	0.1	30	0.5	250	ZTX330
	BC558P	30	30	200	0.25	10	0.5	75	800	2	150*	10	500	BC548P
Р	1 1													
Р	BC178P	30	25	200	0.2	10	0.5	120	800	2	130	10	300	BC108P
0	BC308P	30	25	200	0.2	10	0.5	120	800	2	130*	10	300	BC238P
	ZTX500	25	25	500	0.35	50	5	50	300	10	150	10	300	ZTX300

Typical