

TO-92 Plastic-Encapsulate Transistors

ZTX458 TRANSISTOR (NPN)

FEATURES

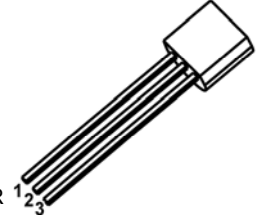
- General Purpose Amplifier Transistor
- High Breakdown Voltage

TO – 92

1.EMITTER

2.BASE

3.COLLECTOR



MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	400	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	300	mA
P_C	Collector Power Dissipation	1	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	125	$^{\circ}\text{C/W}$
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	400			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}^*$	$I_C=10\text{mA}, I_B=0$	400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=320\text{V}, I_E=0$			0.1	μA
Collector cut-off current	I_{CEO}	$V_{CB}=320\text{V}, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0$			0.1	μA
DC current gain	$h_{FE(1)}^*$	$V_{CE}=10\text{V}, I_C=1\text{mA}$	100			
	$h_{FE(2)}^*$	$V_{CE}=10\text{V}, I_C=50\text{mA}$	100		300	
	$h_{FE(3)}^*$	$V_{CE}=10\text{V}, I_C=100\text{mA}$	15			
Collector-emitter saturation voltage	$V_{CE(sat)}^*$	$I_C=20\text{mA}, I_B=2\text{mA}$			0.2	V
		$I_C=50\text{mA}, I_B=6\text{mA}$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}^*$	$I_C=50\text{mA}, I_B=5\text{mA}$			0.9	V
Base-emitter voltage	V_{BE}^*	$V_{CE}=10\text{V}, I_C=50\text{mA}$			0.9	V
Transition frequency	f_T	$V_{CE}=20\text{V}, I_C=10\text{mA}, f=20\text{MHz}$	50			MHz
Collector output capacitance	C_{ob}	$V_{CB}=20\text{V}, I_E=0, f=1\text{MHz}$			5	pF

*Pulse test: pulse width $\leq 300\mu\text{s}$, duty cycles $\leq 2.0\%$.