



# THE DATASHEET OF FZT2222ATA



# FZT2222A

## SOT223 NPN SILICON PLANAR SWITCHING TRANSISTOR

ISSUE 3 - OCTOBER 1995

**FEATURES**

- \* 40 Volt  $V_{CE}$
- \* Fast switching

COMPLEMENTARY TYPE - FZT290  
PARTMARKING DETAIL - FZT2222

**ABSOLUTE MAXIMUM RATINGS**

PARAMETER	SYMBOL
Collector-Base Voltage	$V_{(BR)CB}$
Collector-Emitter Voltage	$V_{(BR)CEO}$
Emitter-Base Voltage	$V_{(BR)EC}$
Continuous Collector Current	$I_{CB}$
Power Dissipation at $T_{amb}=25^{\circ}C$	$I_{EBO}$
Operating and Storage Temperature Range	$I_{CEX}$

**ELECTRICAL CHARACTERISTICS**

PARAMETER	SYMBOL
Collector-Base Breakdown Voltage	$V_{CE(sat)}$
Collector-Emitter Breakdown Voltage	$V_{BE(sat)}$
Emitter-Base Breakdown Voltage	$V_{BE(sat)}$
Collector Cut-Off Current	$I_{CBO}$
Emitter Cut-Off Current	$I_{EBO}$
Collector-Emitter Cut-Off Current	$I_{CEX}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$
Static Forward Current Transfer Ratio	$h_{FE}$

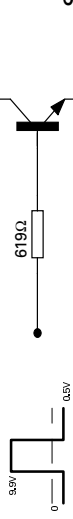
\*Measured under pulsed conditions. Pulse Spice parameter data is available upon request.

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

PARAMETER	SYMBOL	VALUE		UNIT	CONDITIONS
		MIN.	MAX.		
Transition Frequency	$f_T$	300		MHz	$I_C=20mA, V_{CE}=20V, f=100MHz$
Output Capacitance	$C_{obo}$	8		pF	$V_{CB}=10V, I_E=0, f=140KHz$
Input Capacitance	$C_{ibo}$	25		pF	$V_{EB}=0.5V, I_C=0, f=140KHz$
Delay Time	$t_d$	10		ns	$V_{CE}=30V, V_{BE(on)}=0.5V, I_C=150mA, I_B=15mA$ (See Delay Test Circuit)
Rise Time	$t_r$	25		ns	
Storage Time	$t_s$	225		ns	$V_{CE}=30V, I_C=150mA, I_B=15mA$ (See Storage Test Circuit)
Fall Time	$t_f$	60		ns	

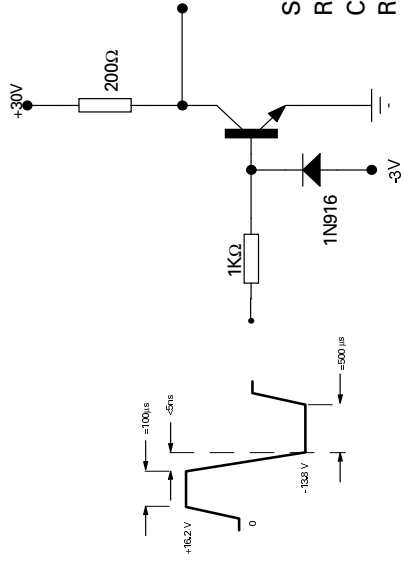
**DELAY AND RISE - TEST CIRCUIT**

Generator rise time <2ns  
Pulse width (t<sub>1</sub>)<200ns  
Duty cycle = 2%



Scope:  
 $R_{in} > 100\ k\Omega$   
 $C_{in} < 12\ pF$   
Rise Time < 5 ns

**STORAGE TIME AND FALL TIME - TEST CIRCUIT**



Scope:  
 $R_{in} > 100\ k\Omega$   
 $C_{in} < 12\ pF$   
Rise Time < 5 ns

Duty cycle = 2%

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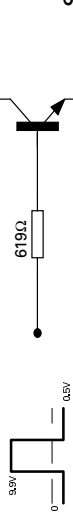
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Emitter-Base Voltage	$V_{(BR)EC}$
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Power Dissipation at $T_{amb}=25^{\circ}C$	$I_{EBO}$
Operating and Storage Temperature Range	$I_{CEX}$

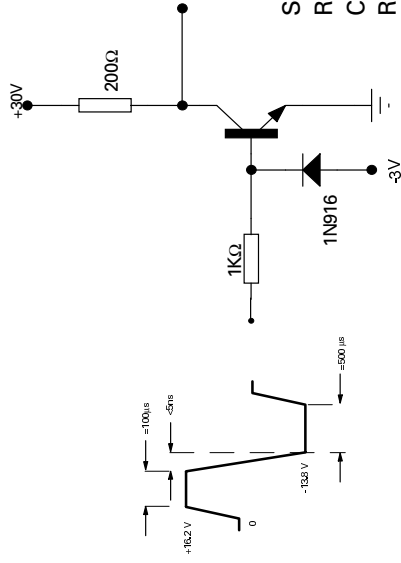
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		MIN.	MAX.		
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Output Capacitance	$C_{obo}$	8		pF	$V_{CB}=10\text{V}, I_E=0, f=140\text{KHz}$
Input Capacitance	$C_{ibo}$	25		pF	$V_{EB}=0.5\text{V}, I_C=0, f=140\text{KHz}$
Delay Time	$t_d$	10		ns	$V_{CE}=30\text{V}, V_{BE(on)}=0.5\text{V}$ $I_C=150\text{mA}, I_B=15\text{mA}$ (See Delay Test Circuit)
Rise Time	$t_r$	25		ns	
Storage Time	$t_s$	225		ns	$V_{CE}=30\text{V}, I_C=150\text{mA}$ $I_B=I_{BB}=15\text{mA}$ (See Storage Test Circuit)
Fall Time	$t_f$	60		ns	

**ELECTRICAL CHARACTERISTICS**

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Static Forward Current Transfer Ratio	$h_{FE}$

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## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

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-  [Diodes Incorporated](#) Information

## Optimize Your Supply Chain with WIN SOURCE Solutions

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-  Excess Inventory Management