



# THE DATASHEET OF FZT604TA



**SOT223 NPN SILICON PLANNED  
POWER DARLINGTON TRANSISTOR  
ISSUE 3 - OCTOBER 1995  
FEATURES**

- \* Guaranteed  $h_{FE}$  Specified up to 2A
- \* Fast Switching

PARTMARKING DETAIL - DEVICE TYPE  
COMPLEMENTARY TYPES - FZT604 -  
FZT605 -

**ABSOLUTE MAXIMUM RATINGS**

PARAMETER
Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Peak Pulse Current
Continuous Collector Current
Power Dissipation
Operating and Storage Temperature Range

**ELECTRICAL CHARACTERISTICS**

PARAMETER	SYMBOL
Collector-Base Breakdown Voltage	$V_{CB}$
	FZT604 FZT605
Collector-Emitter Breakdown Voltage	$V_{CE}$
	FZT604 FZT605
Emitter-Base Breakdown Voltage	$V_{EB}$
	FZT604 FZT605
Collector Cut-Off Current	$I_{C0}$
	FZT604 FZT605
Emitter Cut-Off Current	$I_{E0}$
	FZT604 FZT605
Collector-Emitter Cut-Off Current	$I_{CEO}$
	FZT604 FZT605
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$
	FZT604 FZT605
Base-Emitter Saturation Voltage	$V_{BE}$
	FZT604 FZT605
Base-Emitter Turn-On Voltage	$V_{BE(on)}$
	FZT604 FZT605
Static Forward Current Transfer Ratio	$h_{FE}$
	FZT604 FZT605

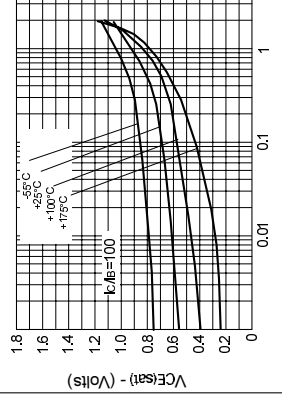
# FZT604 FZT605

# FZT604 FZT605

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS
Transition Frequency	$f_T$	150		MHz	$I_C=100\text{mA}$ , $V_{CE}=10\text{V}$ $f=20\text{MHz}$
Input capacitance	$C_{ibo}$	90 Typical		pF	$V_{EB}=500\text{mV}$ , $f=1\text{MHz}$
Output Capacitance	$C_{obo}$	15 Typical		pF	$V_{CB}=10\text{V}$ , $f=1\text{MHz}$
Switching Times	$t_{on}$	0.5 Typical		pF	$I_C=500\text{mA}$ , $V_{CE}=10\text{V}$ $I_{B1} = I_{B2} = 0.5\text{mA}$
	$t_{off}$	1.6 Typical		pF	

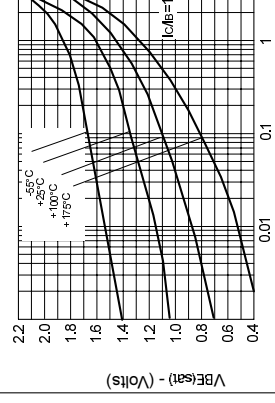
\* Measured under pulsed conditions. Pulse width = 300 $\mu$ s. Duty cycle 2%  
Spice parameter data is available upon request for these devices.

## TYPICAL CHARACTERISTICS



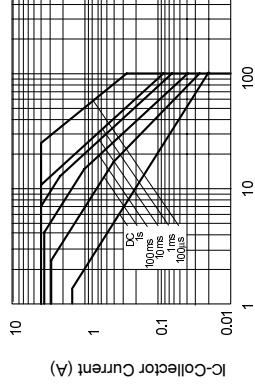
IC - Collector Current (Amps)

VCE(sat) v IC



IC - Collector Current (Amps)

VBE(sat) v IC



VCE - Collector Emitter Voltage (V)

FZT604 Safe Operating Area

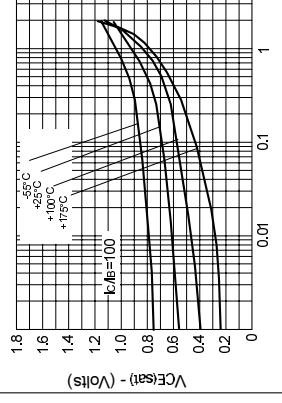
# FZT604 FZT605

# FZT604 FZT605

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS
Transition Frequency	$f_T$	150		MHz	$I_C=100\text{mA}$ , $V_{CE}=10\text{V}$ $f=20\text{MHz}$
Input capacitance	$C_{ibo}$	90 Typical		pF	$V_{EB}=500\text{mV}$ , $f=1\text{MHz}$
Output Capacitance	$C_{obo}$	15 Typical		pF	$V_{CB}=10\text{V}$ , $f=1\text{MHz}$
Switching Times	$t_{on}$	0.5 Typical		pF	$I_C=500\text{mA}$ , $V_{CE}=10\text{V}$ $I_{B1} = I_{B2} = 0.5\text{mA}$
	$t_{off}$	1.6 Typical		pF	

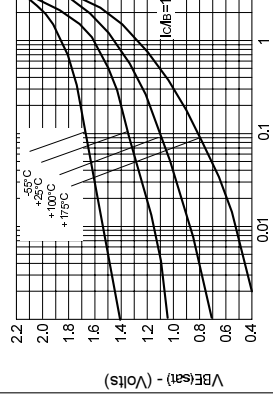
\* Measured under pulsed conditions. Pulse width = 300 $\mu$ s. Duty cycle 2%  
Spice parameter data is available upon request for these devices.

## TYPICAL CHARACTERISTICS



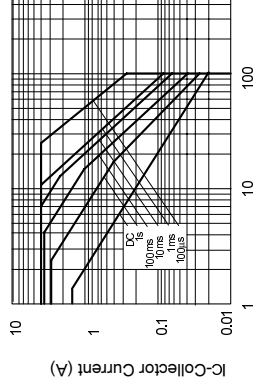
$I_C$  - Collector Current (Amps)

### $V_{CE(sat)}$ v $I_C$



$I_C$  - Collector Current (Amps)

### $V_{BE(sat)}$ v $I_C$





$V_{CE}$  - Collector Emitter Voltage (V)

### FZT604 Safe Operating Area

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

Click below to explore more details on WIN SOURCE:

-  [View FZT604TA on WIN SOURCE](#)
-  [Diodes Incorporated Information](#)

## Optimize Your Supply Chain with WIN SOURCE Solutions

-  Global Sourcing Solution
-  Obsolete Management
-  Cost Control Management
-  Shortage Management
-  Alternative Solution
-  Excess Inventory Management