

# SOT223 NPN SILICON PLANAR HIGH VOLTAGE TRANSISTOR

## FZT658

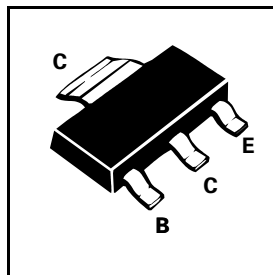
ISSUE 4 - OCTOBER 1995

### FEATURES

- \* 400 Volt  $V_{CE0}$
- \* Low saturation voltage

COMPLEMENTARY TYPE - FZT758

PARTMARKING DETAIL - FZT658



### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	400	V
Collector-Emitter Voltage	$V_{CEO}$	400	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Peak Pulse Current	$I_{CM}$	1	A
Continuous Collector Current	$I_C$	0.5	A
Power Dissipation at $T_{amb}=25^{\circ}C$	$P_{tot}$	2	W
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	$^{\circ}C$

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

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Breakdown Voltage	$V_{(BR)CBO}$	400		V	$I_C=100\mu A$
	$V_{(BR)CEO}$	400		V	$I_C=10mA^*$
	$V_{(BR)EBO}$	5		V	$I_E=100\mu A$
Collector Cut-Off Current	$I_{CBO}$		100	nA	$V_{CB}=320V$
Emitter Cut-Off Current	$I_{EBO}$		100	nA	$V_{EB}=4V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.3	V	$I_C=20mA, I_B=1mA^*$
			0.25	V	$I_C=50mA, I_B=5mA^*$
			0.5	V	$I_C=100mA, I_B=10mA$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		0.9	V	$I_C=100mA, I_B=10mA^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		1.0	V	$I_C=100mA, V_{CE}=5V^*$
Static Forward Current Transfer Ratio	$h_{FE}$	50			$I_C=1mA, V_{CE}=5V^*$
		50			$I_C=100mA, V_{CE}=5V^*$
		40			$I_C=200mA, V_{CE}=10V^*$
Transition Frequency	$f_T$	50		MHz	$I_C=10mA, V_{CE}=20V$ $f=20MHz$
Output Capacitance	$C_{obo}$		10	pF	$V_{CB}=20V, f=1MHz$
Switching Times	$t_{on}$		130	ns	$I_C=100mA, V_{CC}=100V$
	$t_{off}$		3300	ns	$I_{B1}=10mA, I_{B2}=-20mA$

\*Measured under pulsed conditions. Pulse Width=300 $\mu s$ . Duty cycle  $\leq 2\%$   
Spice parameter data is available upon request for this device

# FZT658

## TYPICAL CHARACTERISTICS

