

# SOT223 PNP SILICON PLANAR MEDIUM POWER DARLINGTON TRANSISTOR

## FZT705

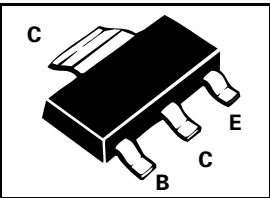
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### FEATURES

- \* 2A CONTINUOUS CURRENT
- \* FAST SWITCHING
- \* GUARANTEED HFE SPECIFIED UP TO 2A

COMPLEMENTARY TYPE – FZT 605

PART MARKING DETAIL – FZT705



### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	-140	V
Collector-Emitter Voltage	$V_{CEO}$	-120	V
Emitter-Base Voltage	$V_{EBO}$	-10	V
Peak Pulse Current	$I_{CM}$	-4	A
Continuous Collector Current	$I_C$	-2	A
Power Dissipation	$P_{TOT}$	2	W
Operating and Storage Temperature Range	tj:tstg	-55 to +150	°C

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Breakdown Voltages	$V_{(BR)CBO}$	-140			V	$I_C = -100\text{mA}$
	$V_{(BR)CEO}$	-120			V	$I_C = -10\text{mA}^*$
	$V_{(BR)EBO}$	-10			V	$I_E = -100\mu\text{A}$
Collector Cut-Off Current	$I_{CBO}$			-0.1 -10	$\mu\text{A}$	$V_{CB} = -120\text{V}$ $V_{CB} = -120\text{V}, T_{amb} = 100^\circ\text{C}$
	$I_{CES}$			-10	$\mu\text{A}$	$V_{CES} = -80\text{V}$
Emitter Cut-Off Current	$I_{EBO}$			-0.1	$\mu\text{A}$	$V_{EB} = -8\text{V}$
Saturation Voltages	$V_{CE(sat)}$			-1.3 -2.5	V	$I_C = -1\text{A}, I_B = -1\text{mA}$ $I_C = -2\text{A}, I_B = -2\text{mA}$
	$V_{BE(sat)}$			-1.8	V	$I_C = -1\text{A}, I_B = -10\text{mA}$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$			-1.7	V	$I_C = -1\text{A}, V_{CE} = -5\text{V}$
Static Forward Current Transfer	$h_{FE}$	3000 3000 3000 2000		30000		$I_C = -10\text{mA}, V_{CE} = -5\text{V}$ $I_C = -100\text{mA}, V_{CE} = -5\text{V}$ $I_C = -1\text{A}, V_{CE} = -5\text{V}$ $I_C = -2\text{A}, V_{CE} = -5\text{V}$
Transitional Frequency	$f_T$		160		MHz	$I_C = -100\text{mA}, V_{CE} = -10\text{V}$ $f = 20\text{MHz}$
Output Capacitance	$C_{obo}$		15		pF	$V_{EB} = -10\text{V}, f = 1\text{MHz}$
Switching Times	$T_{on}$		0.6		$\mu\text{s}$	$I_C = -0.5\text{A}, V_{CE} = -10\text{V}$
	$T_{off}$		0.8		$\mu\text{s}$	$I_{B1} = I_{B2} = 0.5\text{mA}$

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

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## TYPICAL CHARACTERISTICS

