

SOT223 PNP SILICON PLANAR MEDIUM POWER DARLINGTON TRANSISTOR

FZT705

ISSUE 2 - OCTOBER 1995

FEATURES

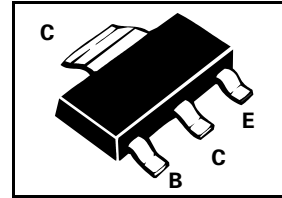
- * 2A CONTINUOUS CURRENT
- * FAST SWITCHING
- * GUARANTEED HFE SPECIFIED UP TO 2A

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	$t_j:tstg$	-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	μA	$V_{CB} = -120\text{V}$ $V_{CB} = -120\text{V}, T_{amb} = 100^\circ\text{C}$
	I_{CES}			-10	μA	$V_{CES} = -80\text{V}$
Emitter Cut-Off Current	I_{EBO}			-0.1	μA	$V_{EB} = -8\text{V}$
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		μs	$I_C = -0.5\text{A}, V_{CE} = -10\text{V}$
	T_{off}		0.8		μs	$I_{B1} = I_{B2} = 0.5\text{mA}$

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

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TYPICAL CHARACTERISTICS

