

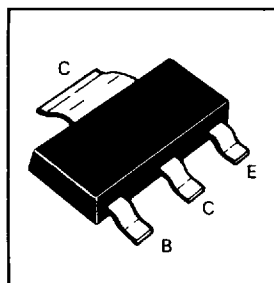
SOT223 NPN SILICON PLANAR MEDIUM POWER DARLINGTON TRANSISTOR

FZT600

FEATURES:

- * 2W POWER DISSIPATION
- * 2A CONTINUOUS I_C
- * 4A PEAK I_C
- * GUARANTEED H_{FE} SPECIFIED UP TO 1A

PARTMARKING DETAIL - FZT600



ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	160	V
Collector-Emitter Voltage	V_{CEO}	140	V
Emitter-Base Voltage	V_{EBO}	10	V
Peak Pulse Current §	I_{CM}	4	A
Continuous Collector Current	I_C	2	A
Power Dissipation at $T_{amb} = 25^\circ\text{C}$	P_{TOT}	2	W
Operating and Storage Temperature Range	$t_j: t_{stg}$	-55 to +150	$^\circ\text{C}$

* Maximum power dissipation is calculated assuming that the device is mounted on PCB measuring 1 sq.inch.

§ Measured under pulsed conditions Pulse width = 300 μs Duty cycle = 2%

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	160			V	$I_C = 100\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	140			V	$I_C = 10\text{mA}^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	10			V	$I_E = 100\mu\text{A}$
Collector Cut-Off Current	I_{CBO}			0.1 10	μA	$V_{CB} = 140\text{V}$ $V_{CB} = 140\text{V}, T_{amb} = 100^\circ\text{C}$
Collector-Emitter Cut-Off Current	I_{CES}			10	μA	$V_{CES} = 140\text{V}$
Emitter-Cut-Off Current	I_{EBO}			0.1	μA	$V_{EB} = 8\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$		0.75 0.85	1.1 1.2	V	$I_C = 0.5\text{A}, I_B = 5\text{mA}^*$ $I_C = 1\text{A}, I_B = 10\text{mA}^*$
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$		1.7	1.9	V	$I_C = 1\text{A}, I_B = 10\text{mA}^*$
Base Emitter Turn-On Voltage	$V_{BE(ON)}$		1.5	1.7	V	$I_C = 1\text{A}, V_{CE} = 5\text{V}^*$
Static Forward Current Transfer Ratio	h_{FE}	2K 1K	2K	100K		$I_C = 0.5\text{mA}, V_{CE} = 10\text{V}^*$ $I_C = 50\text{mA}, V_{CE} = 10\text{V}^*$
		2K 5K	5K 10K	20K		$I_C = 0.5\text{A}, V_{CE} = 10\text{V}^*$ $I_C = 50\text{mA}, V_{CE} = 10\text{V}^*$
	FZT600B	10K 5K	20K 10K	100K		$I_C = 0.5\text{A}, V_{CE} = 10\text{V}^*$ $I_C = 1\text{A}, V_{CE} = 10\text{V}^*$
Transition Frequency	f_T	150	250		MHz	$I_C = 100\text{mA}, V_{CE} = 10\text{V},$ $f = 20\text{MHz}$
Switching Times	t_{on}		0.75		μs	$I_C = 0.5\text{A}, V_{CE} = 10\text{V}$ $I_{B1} = I_{B2} = 0.5\text{mA}$
	t_{off}		2.2		μs	
Output Capacitance	C_{obo}		10	15	MHz	$V_{CB} = 10\text{V}, f = 1\text{MHz}$

* Measured under pulsed conditions. Pulse width = 300 μs . Duty cycle = $\leq 2\%$

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