

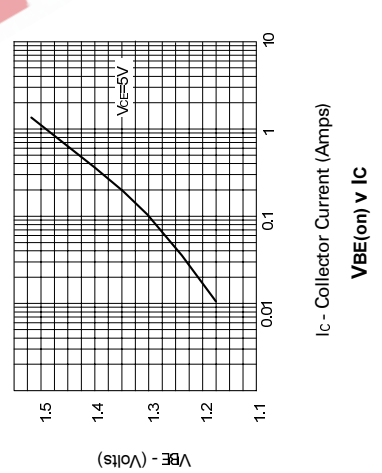
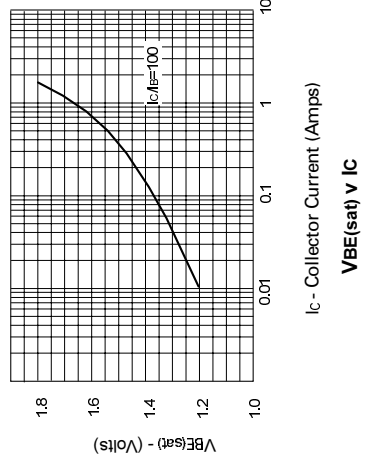
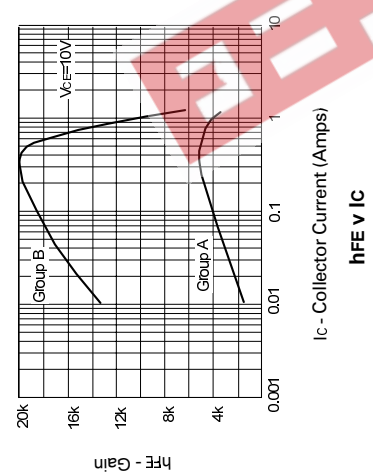
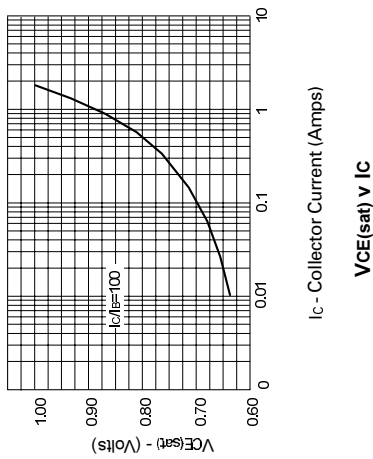
FZT600

SOT223 NPN SILICON PLANAR MEDIUM POWER DARLINGTON TRANSISTOR

ISSUE 3 – FEBRUARY 1997

FZT600

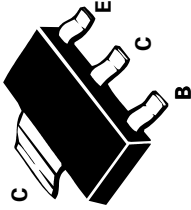
TYPICAL CHARACTERISTICS



FEATURES

- * 2A continuous current
- * 140 VOLT V_{CEO}
- * Guaranteed h_{FE} Specified up to 1A

PART MARKING 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	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.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{BR/CBO}$	160			V	$I_C=100\mu A$
Collector-Emitter Breakdown Voltage	$V_{BR/CEO}$	140			V	$I_C=10mA^*$
Emitter-Base Breakdown Voltage	$V_{BR/EBO}$	10			V	$I_E=100\mu A$
Collector Cut-Off Current	I_{CBO}		0.01		μA	$V_{CB}=140V$
Collector Cut-Off Current	I_{CES}		10		μA	$V_{CB}=140V, T_{amb}=100^{\circ}C$
Emitter Cut-Off Current	I_{EBO}			0.1	μA	$V_{EB}=8V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.75	1.1	V	$I_C=0.5A, I_B=5mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		0.85	1.2	V	$I_C=1A, I_B=10mA^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		1.7	1.9	V	$I_C=1A, I_B=10mA^*$
Static Forward Current Transfer Ratio	h_{FE}	1k	1.5	1.7	V	$I_C=1A, V_{CE}=5V^*$
GROUP B		1k				$I_C=50mA, V_{CE}=10V^*$
		2k				$I_C=0.5A, V_{CE}=10V^*$
		1k				$I_C=1A, V_{CE}=10V^*$
Transition Frequency	f_T	5k	10k	100k	MHz	$I_C=50mA, V_{CE}=10V^*$
		10k	20k	100k	MHz	$I_C=0.5mA, V_{CE}=10V^*$
		5k	10k	10k	MHz	$I_C=1A, V_{CE}=10V^*$
Output Capacitance	C_{obo}	150	250		MHz	$I_C=100mA, V_{CE}=10V, f=20MHz$
Switching Times	T_{on}		10	15	MHz	$V_{CB}=10V, f=1MHz$
	T_{off}		0.75		μs	$I_C=0.5A, V_{CE}=10V$
			2.20		μs	$I_B/I_B=0.5mA$

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

FZT600

SOT223 NPN SILICON PLANAR MEDIUM POWER DARLINGTON TRANSISTOR

FZT600

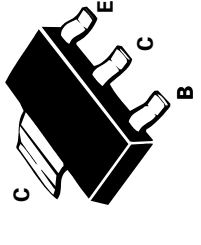
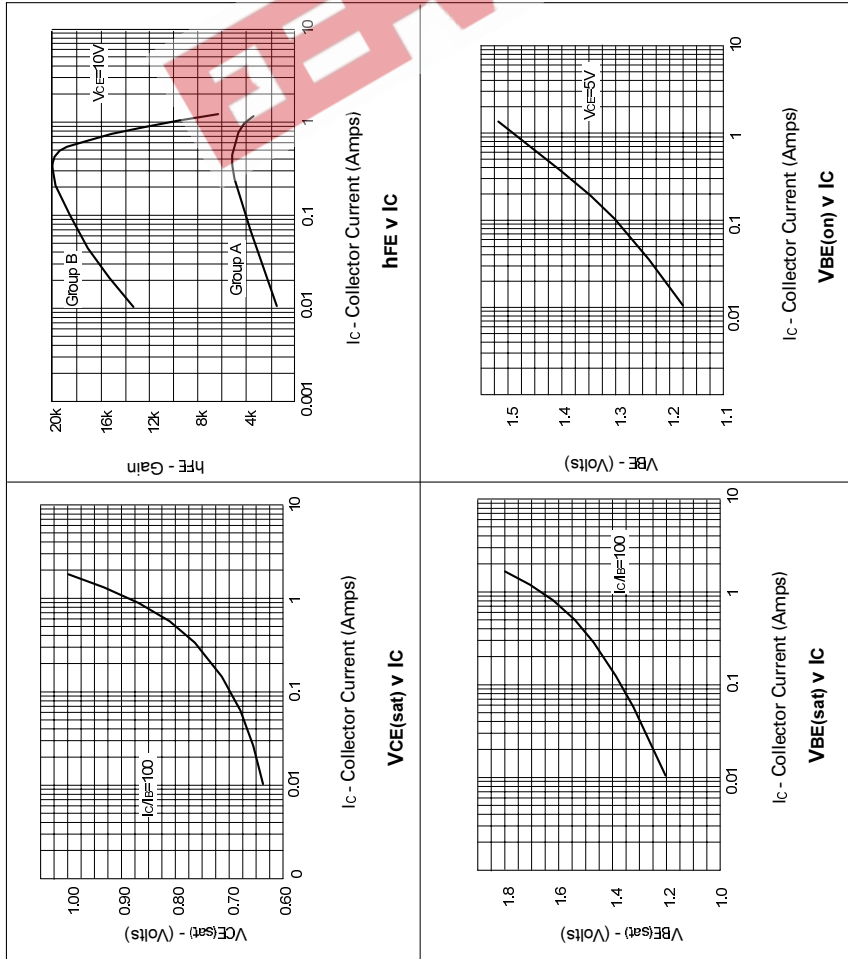
ISSUE 3 – FEBRUARY 1997

FEATURES

- * 2A continuous current
- * 140 VOLT V_{CE0}
- * Guaranteed h_{FE} Specified up to 1A

PART MARKING DETAIL – FZT600

TYPICAL CHARACTERISTICS



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	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.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{BR/CBO}$	160			V	$I_C = 100\mu A$
Collector-Emitter Breakdown Voltage	$V_{BR/CEO}$	140			V	$I_C = 10mA^*$
Emitter-Base Breakdown Voltage	$V_{BR/EBO}$	10			V	$I_E = 100\mu A$
Collector Cut-Off Current	I_{CBO}		0.01		μA	$V_{CB} = 140V$
Collector Cut-Off Current	I_{CES}		10		μA	$V_{CB} = 140V, T_{amb} = 100^{\circ}C$
Emitter Cut-Off Current	I_{EBO}		0.1		μA	$V_{EB} = 8V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.75		V	$I_C = 0.5A, I_B = 5mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		0.85		V	$I_C = 1A, I_B = 10mA^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		1.7		V	$I_C = 1A, I_B = 10mA^*$
Static Forward Current Transfer Ratio	h_{FE}	1k	1.5	1.7	V	$I_C = 1A, V_{CE} = 5V^*$
GROUP B		1k				$I_C = 50mA, V_{CE} = 10V^*$
		2k				$I_C = 0.5A, V_{CE} = 10V^*$
		1k				$I_C = 1A, V_{CE} = 10V^*$
Transition Frequency	f_T	5k	10k		MHz	$I_C = 50mA, V_{CE} = 10V^*$
		10k	20k		MHz	$I_C = 0.5mA, V_{CE} = 10V^*$
		5k	10k		MHz	$I_C = 1A, V_{CE} = 10V^*$
Output Capacitance	C_{obo}	150	250		pF	$I_C = 100mA, V_{CE} = 10V, f = 20MHz$
Switching Times	T_{on}		10	15	nS	$V_{CB} = 10V, f = 1MHz$
	T_{off}		0.75		nS	$I_C = 0.5A, V_{CE} = 10V$
			2.20		nS	$I_B = I_B = 0.5mA$

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