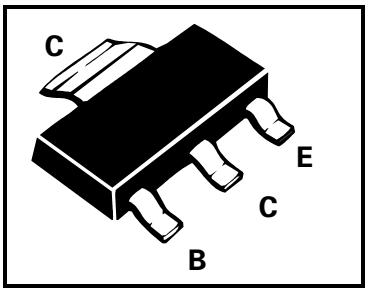
SOT223 NPN SILICON PLANAR MEDIUM POWER DARLINGTON TRANSISTORS

FZT604
FZT605

ISSUE 3 - OCTOBER 1995

FEATURES

* Guaranteed h_{FE} Specified up to 2A
* Fast Switching



PARTMARKING DETAIL - DEVICE TYPE IN FULL
COMPLEMENTARY TYPES - FZT604 - FZT704
FZT605 - FZT705

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	FZT604	FZT605	UNIT
Collector-Base Voltage	V_{CBO}	120	140	V
Collector-Emitter Voltage	V_{CEO}	100	120	V
Emitter-Base Voltage	V_{EBO}	10		V
Peak Pulse Current	I_{CM}	4		A
Continuous Collector Current	I_C	1.5		A
Power Dissipation	P_{tot}	2		W
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +150		°C

ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C unless otherwise stated).

PARAMETER		SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	FZT604 FZT605	$V_{(BR)CBO}$	120 140		V V	I_C=100μA I_C=100μA
Collector-Emitter Breakdown Voltage	FZT604 FZT605	$V_{(BR)CEO}$	100 120		V	I_C=10mA* I_C=10mA*
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	10		V	I_E=100μA
Collector Cut-Off Current	FZT604	I_{CBO}		0.01 10	μA μA	V_{CB}=100V V_{CB}=100V,T_{amb}=100°C
	FZT605			0.01 10	μA μA	V_{CB}=120V V_{CB}=120V,T_{amb}=100°C
Emitter Cut-Off Current		I_{EBO}		0.1	μA	V_{EB}=8V
Collector-Emitter Cut-Off Current	FZT604	I_{CES}		10	μA	V_{CES}=100V
	FZT605			10	μA	V_{CES}=120V
Collector-EmitterSaturation Voltage		$V_{CE(sat)}$		1.0, 1.5	V V	I_C=250mA, I_B=0.25mA* I_C=1A, I_B=1mA*
Base-Emitter Saturation Voltage		$V_{BE(sat)}$		1.8	V	I_C=1A, I_B=1mA*
Base-Emitter Turn-On Voltage		$V_{BE(on)}$		1.7	V	I_C=1A, V_{CE}=5V*
Static Forward Current Transfer Ratio		h_{FE}	2K 5K 2K 0.5K	100K		I_C=50mA, V_{CE}=5V I_C=500mA, V_{CE}=5V* I_C=1A, V_{CE}=5V* I_C=2A, V_{CE}=5V*

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS
Transition Frequency	f_T	150		MHz	I_C=100mA,V_{CE}=10V f=20MHz
Input capacitance	C_{ibo}	90 Typical		pF	V_{EB}=500mV, f=1MHz
Output Capacitance	C_{obo}	15 Typical		pF	V_{CB}=10V, f=1MHz
Switching Times	t_{on}	0.5 Typical		pF	I_C=500mA, V_{CE}=10V I_{B1} = I_{B2} = 0.5mA
	t_{off}	1.6 Typical		pF	

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

Spice parameter data is available upon request for these devices.

FZT604
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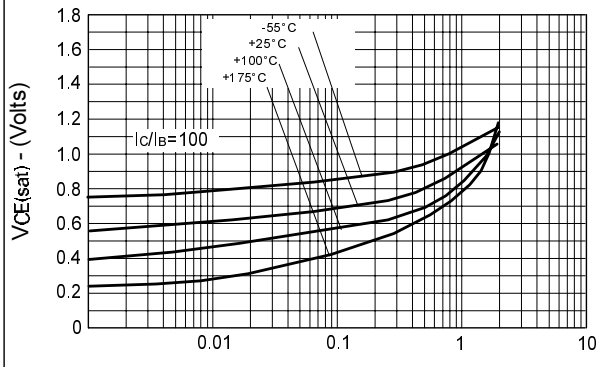
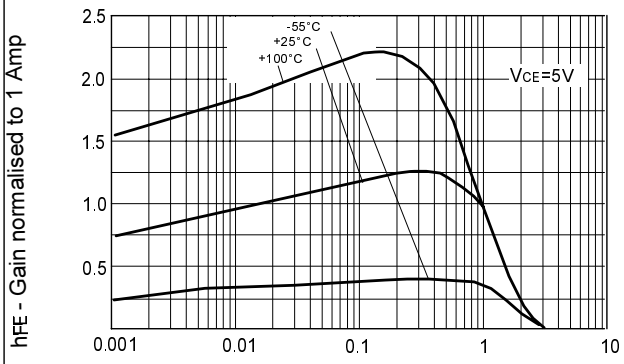
TYPICAL CHARACTERISTICS



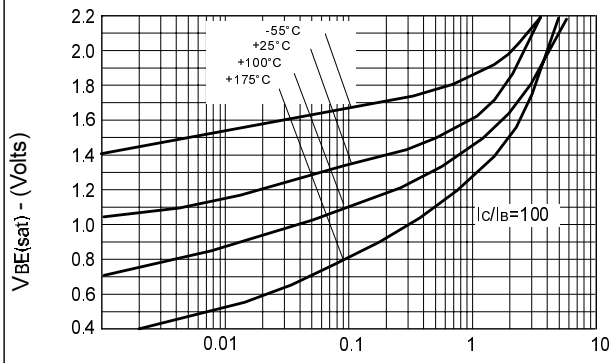
IC - Collector Current (Amps)

VCE(sat) v IC



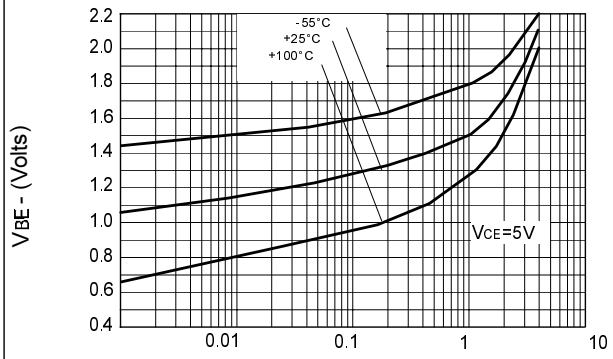
IC - Collector Current (Amps)

hFE v IC



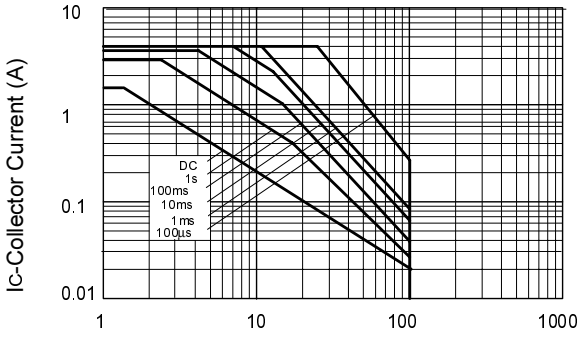
IC - Collector Current (Amps)

VBE(sat) v IC



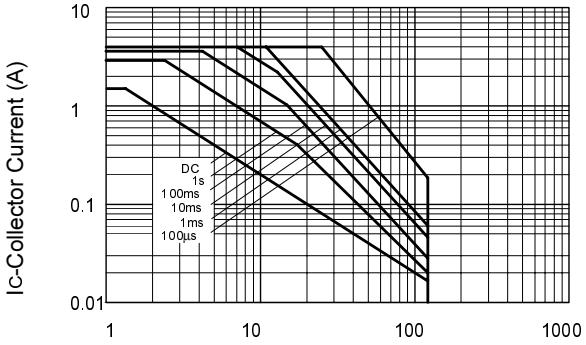
IC - Collector Current (Amps)

VBE(on) v IC



VCE - Collector Emitter Voltage (V)

FZT604 Safe Operating Area



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