

SOT223 PNP SILICON PLANAR MEDIUM POWER TRANSISTOR

FZT749

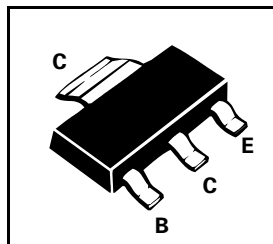
ISSUE 4 - NOVEMBER 1995

FEATURES

- * 25 Volt V_{CEO}
- * 3 Amp continuous current
- * Low saturation voltage
- * Excellent h_{FE} specified up to 6A (pulsed).

COMPLEMENTARY TYPE – FZT649

PARTMARKING DETAIL – FZT749



ABSOLUTE MAXIMUM RATINGS.

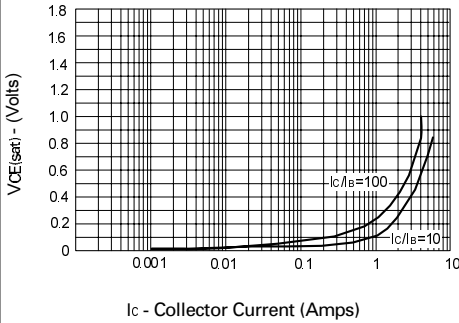
PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	-35	V
Collector-Emitter Voltage	V_{CEO}	-25	V
Emitter-Base Voltage	V_{EBO}	-5	V
Peak Pulse Current	I_{CM}	-8	A
Continuous Collector Current	I_C	-3	A
Power Dissipation at $T_{amb}=25^{\circ}C$	P_{tot}	2	W
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	$^{\circ}C$

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

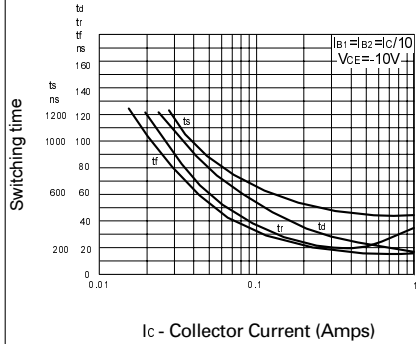
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Breakdown Voltages	$V_{(BR)CBO}$	-35			V	$I_C = -100\mu A$
	$V_{(BR)CEO}$	-25			V	$I_C = -10mA^*$
	$V_{(BR)EBO}$	-5			V	$I_E = -100\mu A$
Collector Cut-Off Currents	I_{CBO}			-0.1 -10	μA μA	$V_{CB} = -30V$ $V_{CB} = -30V, T_{amb} = 100^{\circ}C$
	I_{EBO}			-0.1	μA	$V_{EB} = 4V$
Saturation Voltages	$V_{CE(sat)}$		-0.12 -0.40	-0.3 -0.6	V V	$I_C = -1A, I_B = -100mA^*$ $I_C = -3A, I_B = -300mA^*$
	$V_{BE(sat)}$		-0.9	-1.25	V	$I_C = -1A, I_B = -100mA^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		-0.8	-1.0	V	$I_C = -1A, V_{CE} = -2V^*$
Static Forward Current Transfer Ratio	h_{FE}	70 100 75 15	200 200 150 50	300		$I_C = -50mA, V_{CE} = -2V^*$ $I_C = -1A, V_{CE} = -2V^*$ $I_C = -2A, V_{CE} = -2V^*$ $I_C = -6A, V_{CE} = -2V^*$
Transition Frequency	f_T	100	160		MHz	$I_C = -100mA, V_{CE} = -5V$ $f = 100MHz$
Output Capacitance	C_{obo}		55	100	pF	$V_{CB} = -10V, f = 1MHz$
Switching Times	t_{on}		40		ns	$I_C = -500mA, V_{CC} = -10V$
	t_{off}		450		ns	$I_{B1} = I_{B2} = -50mA$

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

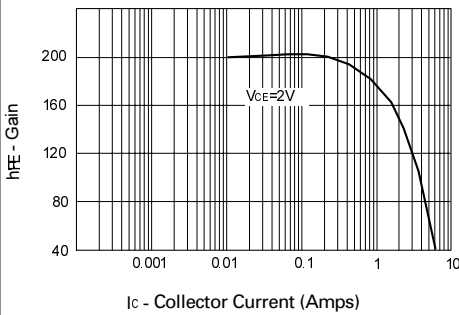
TYPICAL CHARACTERISTICS



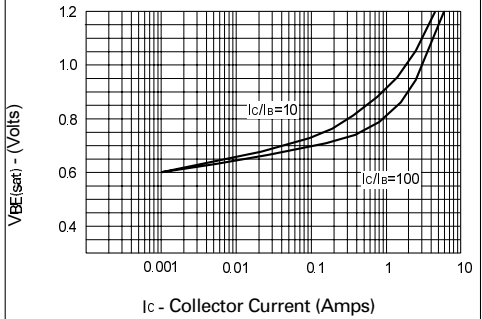
$V_{CE(sat)}$ v I_C



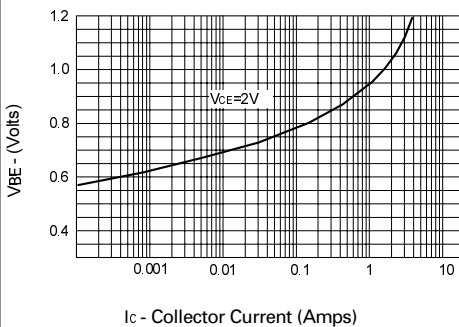
Switching Speeds



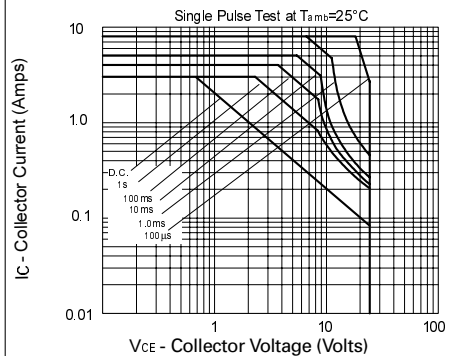
h_{FE} v I_C



$V_{BE(sat)}$ v I_C



$V_{BE(on)}$ v I_C



Safe Operating Area