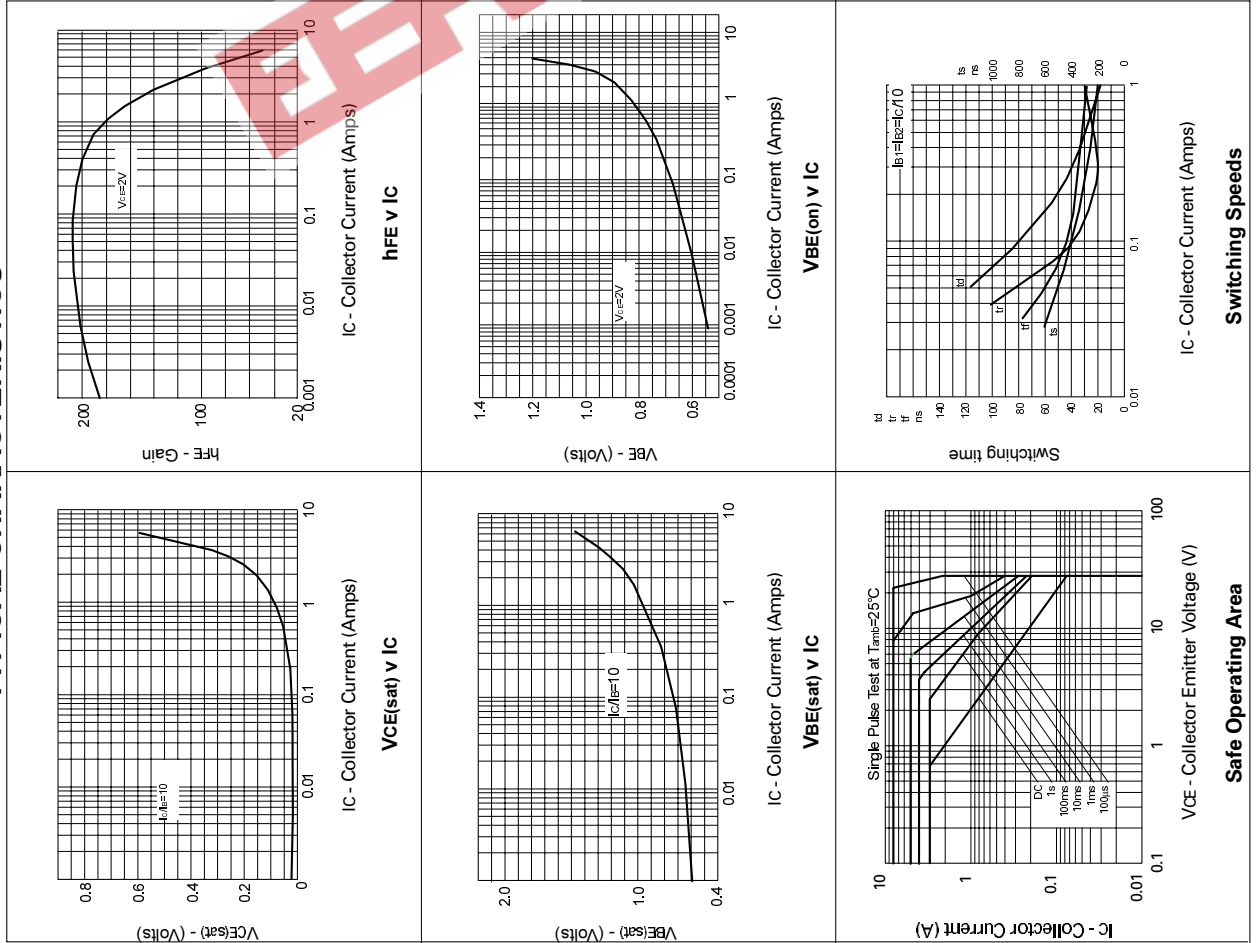


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TYPICAL CHARACTERISTICS



FEATURES

- * 25 Volt V_{CE0}
- * 3 Amp continuous current
- * Low saturation voltage
- * Excellent h_{FE} specified up to 6A

COMPLEMENTARY TYPE – FZT749

PARTMARKING DETAIL – FZT649

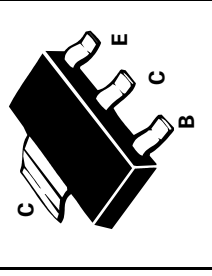
ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	MAX.	UNIT	CONDITIONS.
Collector-Base Voltage	V_{CBO}	35	V	$I_C=100\mu A$
Collector-Emitter Voltage	V_{CEO}	25	V	$I_C=10mA^*$
Emitter-Base Voltage	V_{EBO}	5	V	$I_E=100\mu A$
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).

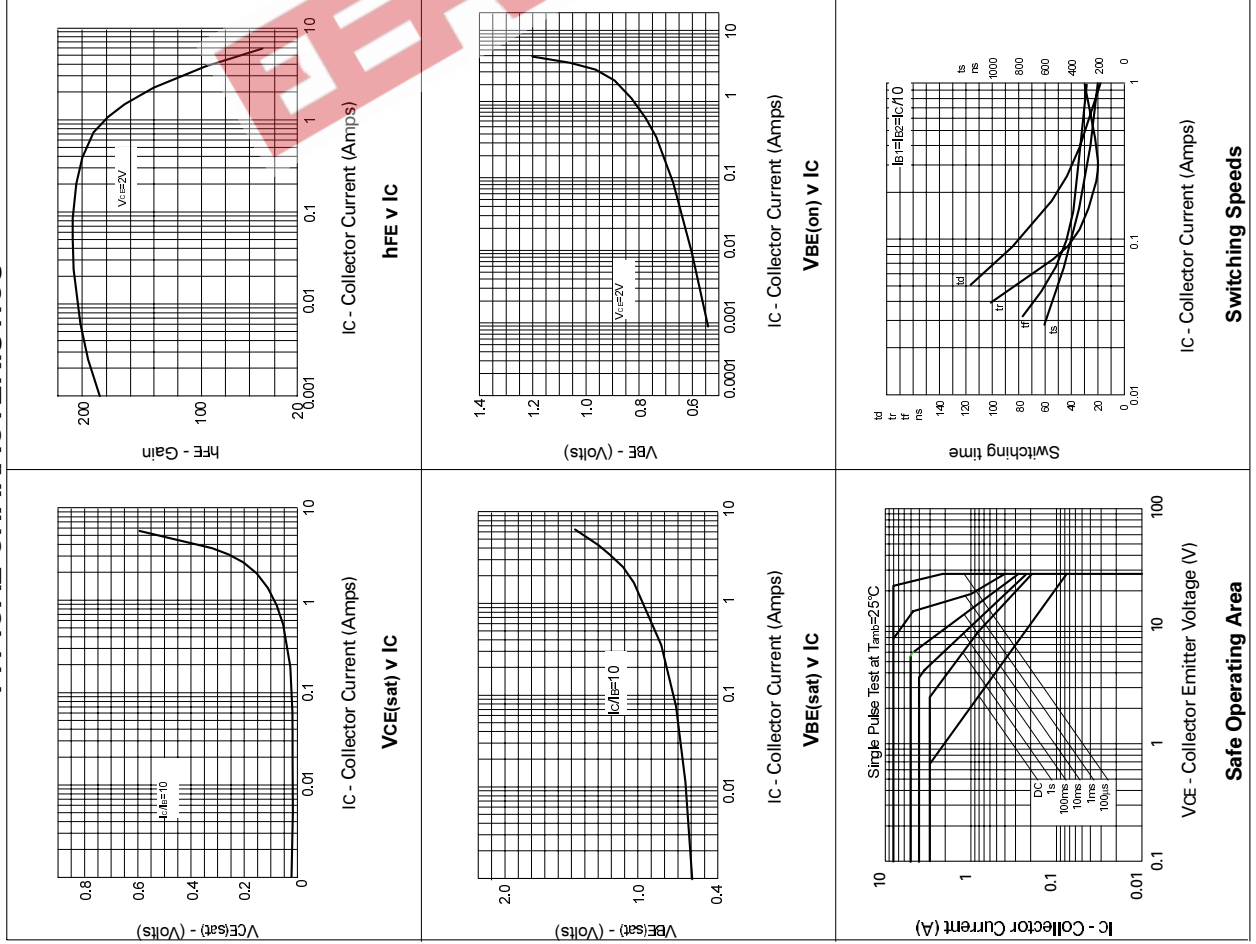
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	35			V	$I_C=100\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	25			V	$I_C=10mA^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5			V	$I_E=100\mu A$
Collector Cut-Off Current	I_{CBO}			0.1	μA	$V_{CE}=30V, T_{amb}=100^\circ C$
Emitter Cut-Off Current	I_{EBO}			10	μA	$V_{BE}=4V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	0.12	0.40	0.6	V	$I_C=1A, I_B=100mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	0.9	1.25	1.25	V	$I_C=3A, I_B=300mA^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$	0.8	1.0	1.0	V	$I_C=1A, V_{CE}=2V^*$
Static Forward Current Transfer Ratio	h_{FE}	70	200	300		$I_C=50mA, V_{CE}=2V^*$
Transition Frequency	f_T	100	150	240	MHz	$I_C=1A, V_{CE}=2V^*$
Output Capacitance	C_{obbo}	25	50	50	pF	$V_{CE}=10V, f=1MHz$
Switching Times	t_{on}	55	300	300	ns	$I_C=500mA, V_{CC}=10V$
	t_{off}				ns	$I_B=I_BZ=50mA$

*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



FEATURES

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COMPLEMENTARY TYPE – FZT749

PARTMARKING DETAIL – FZT649

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	MAX.	UNIT	CONDITIONS.
Collector-Base Voltage	V_{CBO}	35	V	$I_C=100\mu A$
Collector-Emitter Voltage	V_{CEO}	25	V	$I_C=10mA^*$
Emitter-Base Voltage	V_{EBO}	5	V	$I_E=100\mu A$
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.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	35			V	$I_C=100\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	25			V	$I_C=10mA^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5			V	$I_E=100\mu A$
Collector Cut-Off Current	I_{CBO}			0.1	μA	$V_{CE}=30V, T_{amb}=100^\circ C$
Emitter Cut-Off Current	I_{EBO}			10	μA	$V_{BE}=4V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	0.12	0.40	0.6	V	$I_C=1A, I_B=100mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	0.9	1.25	1.25	V	$I_C=3A, I_B=300mA^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$	0.8	1.0	1.0	V	$I_C=1A, V_{CE}=2V^*$
Static Forward Current Transfer Ratio	h_{FE}	70	200	300		$I_C=50mA, V_{CE}=2V^*$
		100	200	300		$I_C=1A, V_{CE}=2V^*$
		75	150	150		$I_C=2A, V_{CE}=2V^*$
		15	50	50		$I_C=6A, V_{CE}=2V^*$
Transition Frequency	f_T	150	240	240	MHz	$I_C=100mA, V_{CE}=5V, f=100MHz$
Output Capacitance	C_{obbo}	25	50	50	pF	$V_{CE}=10V, f=1MHz$
Switching Times	t_{on}	55	55	55	ns	$I_C=500mA, V_{CC}=10V$
	t_{off}	300	300	300	ns	$I_B=I_{BZ}=50mA$

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

