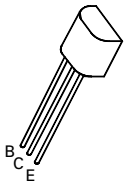
PNP SILICON PLANAR SWITCHING TRANSISTOR

FXT2907A

ISSUE 2 – SEPTEMBER 94

FEATURES

* 60 Volt V_{CEO}
* Fast switching



E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	-60	V
Collector-Emitter Voltage	V_{CEO}	-60	V
Emitter-Base Voltage	V_{EBO}	-5	V
Continuous Collector Current	I_C	-600	mA
Power Dissipation at T_{amb}=25°C	P_{tot}	500	mW
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +175	°C

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-60			V	I_C=-10μA, I_E=0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-60			V	I_C=-10mA, I_B=0*
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	I_E=-10μA, I_C=0
Collector-Emitter Cut-Off Current	I_{CEX}			-50	nA	V_{CE}=-30V, V_{BE}=-0.5V
Collector Cut-Off Current	I_{CBO}			-10 -10	nA μA	V_{CB}=-50V, I_E=0 V_{CB}=-50V, I_E=0, T_{amb}=150°C
Base Cut-Off Current	I_B			-50	nA	V_{CE}=-30V, V_{BE}=-0.5V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.4 -1.6	V V	I_C=-150mA, I_B=-15mA* I_C=-500mA, I_B=-50mA*
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			-1.3 -2.6	V V	I_C=-150mA, I_B=-15mA* I_C=-500mA, I_B=-50mA*
Static Forward Current Transfer Ratio	h_{FE}	75 100 100 100 50		 300		I_C=-0.1mA, V_{CE}=-10V I_C=-1mA, V_{CE}=-10V I_C=-10mA, V_{CE}=-10V I_C=-150mA, V_{CE}=-10V* I_C=-500mA, V_{CE}=-10V*
Transition Frequency	f_T	200			MHz	I_C=-50mA, V_{CE}=-20V f=100MHz

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

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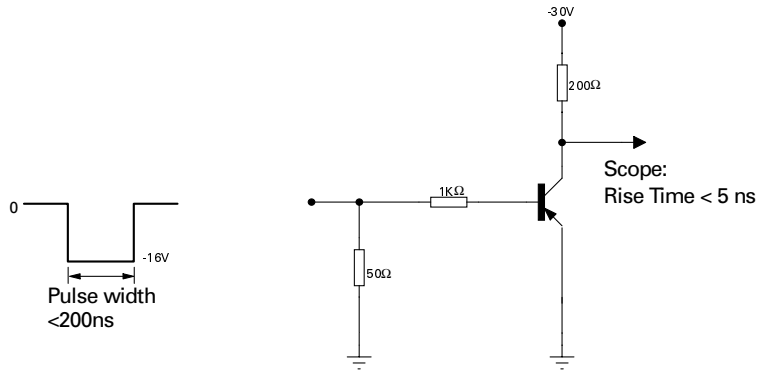
SWITCHING CHARACTERISTICS (at T_{amb} = 25°C unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Output Capacitance	C_{obo}			8	pF	V_{CB}=-10V, I_E=0, f=100KHz
Input Capacitance	C_{ibo}			30	pF	V_{BE}=2V, I_C=0, f=100KHz
Turn On Time	t_{on}			50	ns	V_{CE}=-30V I_C=-150mA, I_{B1}=15mA (See Turn On Circuit)
Turn Off Time	t_{off}			110	ns	V_{CC}=-6V, I_C=-150mA I_{B1}= I_{B2}=-15mA (See Turn Off Circuit)

TURN ON TIME – TEST CIRCUIT



TURN OFF TIME – TEST CIRCUIT