



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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SOT223 NPN SILICON PLANAR SWITCHING TRANSISTOR

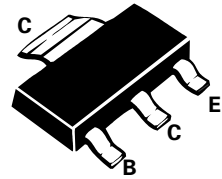
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FEATURES

- * 40 Volt V_{CEO}
- * Fast switching

COMPLEMENTARY TYPE - FZT2907A
PARTMARKING DETAIL - FZT2222A

FZT2222A



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	75	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	5	V
Continuous Collector Current	I_C	600	mA
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	VALUE		UNIT	CONDITIONS.
		MIN.	MAX.		
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	75		V	$I_C=10\mu A, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	40		V	$I_C=10mA, I_B=0^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	6		V	$I_E=10\mu A, I_C=0$
Collector Cut-Off Current	I_{CBO}		10 10	nA μA	$V_{CB}=50V, I_E=0$ $V_{CB}=50V, I_E=0, T_{amb}=150^{\circ}C$
Emitter Cut-Off Current	I_{EBO}		10	nA	$V_{EB}=3V, I_C=0$
Collector-Emitter Cut-Off Current	I_{CEX}		10	nA	$V_{CE}=60V, V_{EB(off)}=3V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.3 1.0	V V	$I_C=150mA, I_B=15mA^*$ $I_C=500mA, I_B=50mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	0.6	1.2 2.0	V V	$I_C=150mA, I_B=15mA^*$ $I_C=500mA, I_B=50mA^*$
Static Forward Current Transfer Ratio	h_{FE}	35 50 75 35 100 50 40	300		$I_C=0.1mA, V_{CE}=10V^*$ $I_C=1mA, V_{CE}=10V^*$ $I_C=10mA, V_{CE}=10V^*$ $I_C=10mA, V_{CE}=10V, T_{amb}=-55^{\circ}C^*$ $I_C=150mA, V_{CE}=10V^*$ $I_C=150mA, V_{CE}=1V^*$ $I_C=500mA, V_{CE}=10V^*$

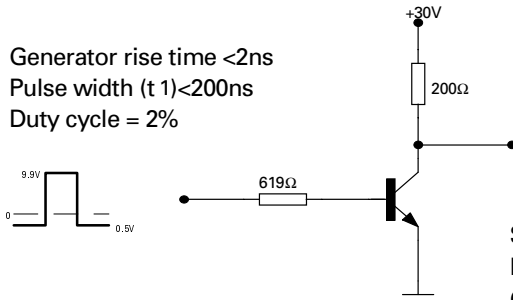
*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$
Spice parameter data is available upon request for this device

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

PARAMETER	SYMBOL	VALUE		UNIT	CONDITIONS.
		MIN.	MAX.		
Transition Frequency	f_T	300		MHz	$I_C=20\text{mA}$, $V_{CE}=20\text{V}$ $f=100\text{MHz}$
Output Capacitance	C_{obo}		8	pF	$V_{CB}=10\text{V}$, $I_E=0$, $f=140\text{KHz}$
Input Capacitance	C_{ibo}		25	pF	$V_{EB}=0.5\text{V}$, $I_C=0$, $f=140\text{KHz}$
Delay Time	t_d		10	ns	$V_{CE}=30\text{V}$, $V_{BE(off)}=0.5\text{V}$ $I_C=150\text{mA}$, $I_{B1}=15\text{mA}$
Rise Time	t_r		25	ns	(See Delay Test Circuit)
Storage Time	t_s		225	ns	$V_{CE}=30\text{V}$, $I_C=150\text{mA}$ $I_{B1}=I_{B2}=15\text{mA}$
Fall Time	t_f		60	ns	(See Storage Test Circuit)

DELAY AND RISE – TEST CIRCUIT

Generator rise time $< 2\text{ns}$
Pulse width (t_1) $< 200\text{ns}$
Duty cycle = 2%



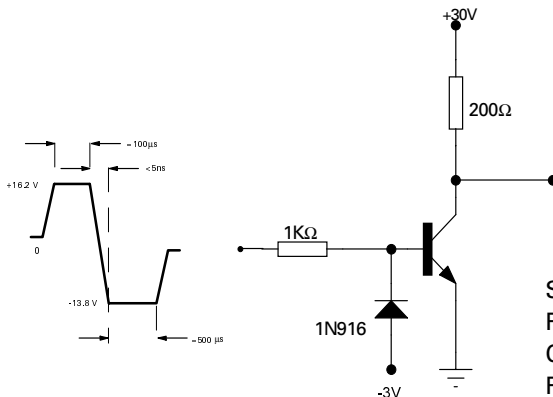
Scope:

$R_{in} > 100\text{ k}\Omega$

$C_{in} < 12\text{ pF}$

Rise Time $< 5\text{ ns}$

STORAGE TIME AND FALL TIME – TEST CIRCUIT



Scope:

$R_{in} > 100\text{ k}\Omega$

$C_{in} < 12\text{ pF}$

Rise Time $< 5\text{ ns}$

Duty cycle = 2%