



SEMICONDUCTOR

S9014LT1

Shandong Yiguang Electronic Joint stock Co., Ltd

TECHNICAL DATA

NPN EPITAXIAL SILICON TRANSISTOR

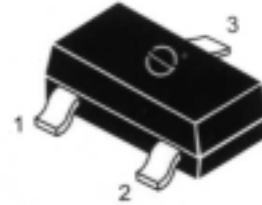
PRE-AMPLIFIER,LOW LEVEL&LOW NOISE

- * Complement to S9015LT1
- * Collector Current: $I_c = 100\text{mA}$
- * Collector-Emitter Voltage: $V_{ce} = 45\text{V}$
- * High Total Power Dissipation: $P_c = 225\text{mW}$
- * High H_{fe} And Good Linearity

ABSOLUTE MAXIMUM RATINGS at $T_a = 25$

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{cbo}	50	V
Collector-Emitter Voltage	V_{ceo}	45	V
Emitter-Base Voltage	V_{ebo}	5	V
Collector Current	I_c	100	mA
Collector Dissipation $T_a = 25$ *	P_D	225	mW
Junction Temperature	T_j	150	
Storage Temperature	T_{stg}	-55-150	

Package:SOT-23



PIN:	1	2	3
STYLE			
NO.1	B	E	C

ELECTRICAL CHARACTERISTICS at $T_a = 25$

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Collector-Base Breakdown Voltage	BV_{cbo}	50			V	$I_c = 100\mu\text{A}$ $I_e = 0$
Collector-Emitter Breakdown Voltage#	BV_{ceo}	45			V	$I_c = 1\text{mA}$ $I_b = 0$
Emitter-Base Breakdown Voltage	BV_{ebo}	5			V	$I_e = 100\mu\text{A}$ $I_c = 0$
Collector-Base Cutoff Current	I_{cbo}			50	nA	$V_{cb} = 50\text{V}$ $I_e = 0$
Emitter-Base Cutoff Current	I_{ebo}			50	nA	$V_{eb} = 5\text{V}$ $I_c = 0$
DC Current Gain	H_{fe}	60	300	1000		$V_{ce} = 5\text{V}$ $I_c = 1\text{mA}$
Collector-Emitter Saturation Voltage	$V_{ce(sat)}$			0.3	V	$I_c = 100\text{mA}$ $I_b = 5\text{mA}$
Base-Emitter Saturation Voltage	$V_{be(sat)}$			1.00	V	$I_c = 100\text{mA}$ $I_b = 5\text{mA}$
Base-Emitter on Voltage	$V_{be(on)}$	0.58	0.63	0.7	V	$V_{ce} = 5\text{V}$ $I_c = 2\text{mA}$
Output Capacitance	C_{ob}		2.2	3.5	PF	$V_{cb} = 10\text{V}$ $I_e = 0$ $f = 1\text{MHz}$
Current Gain-Bandwidth Product	f_T	150	270		MHz	$V_{ce} = 5\text{V}$ $I_c = 10\text{mA}$
Noise Figure	NF			10	dB	$V_{ce} = 5\text{V}$ $I_c = 0.2\text{mA}$ $f = 1\text{KHz}$ $R_s = 2\text{Kohm}$

* Total Device Dissipation : $FR = 1 \times 0.75 \times 0.062\text{in Board}$, Derate 25 .# Pulse Test : Pulse Width 300 μs , Duty cycle 2%

DEVICE MARKING:

S9014LT1=L6



Fig. 1 $P_C - T_a$

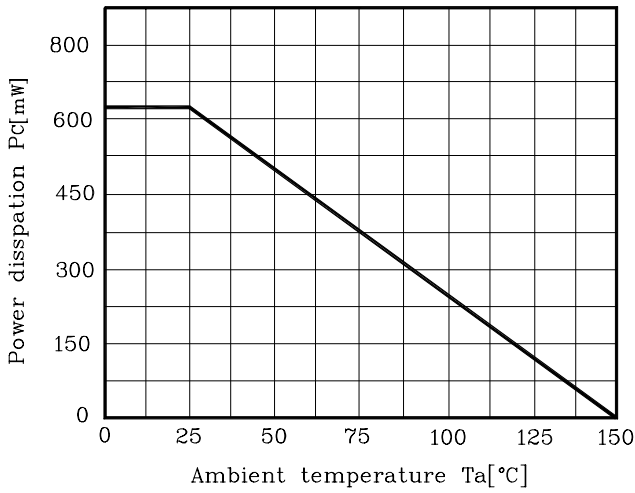


Fig. 2 $I_C - V_{BE}$

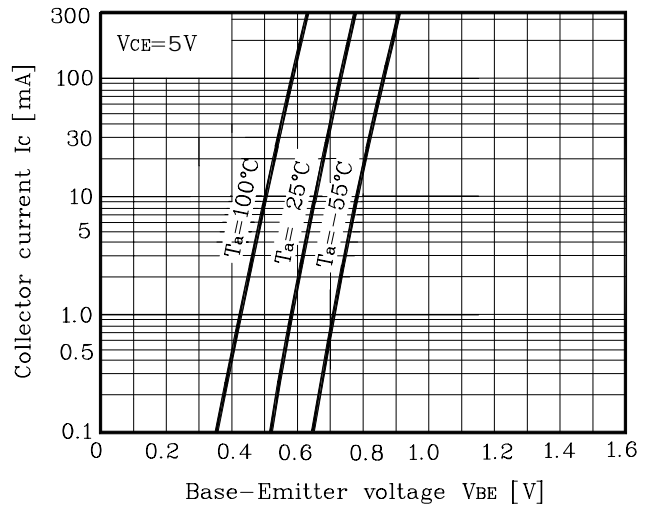


Fig. 3 $I_C - V_{CE}$

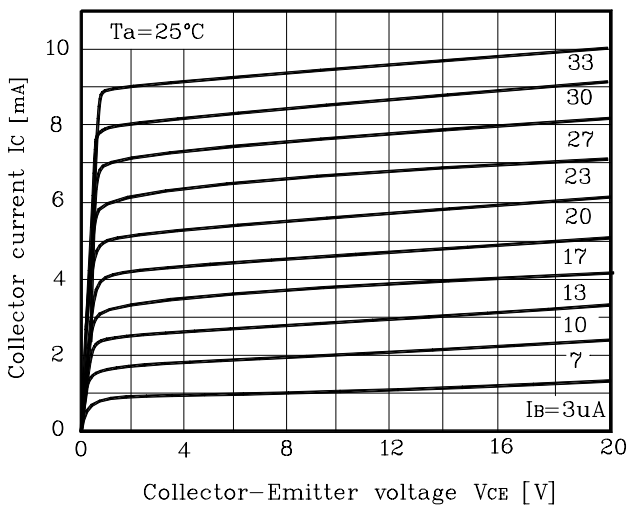


Fig. 4 $h_{FE} - I_C$

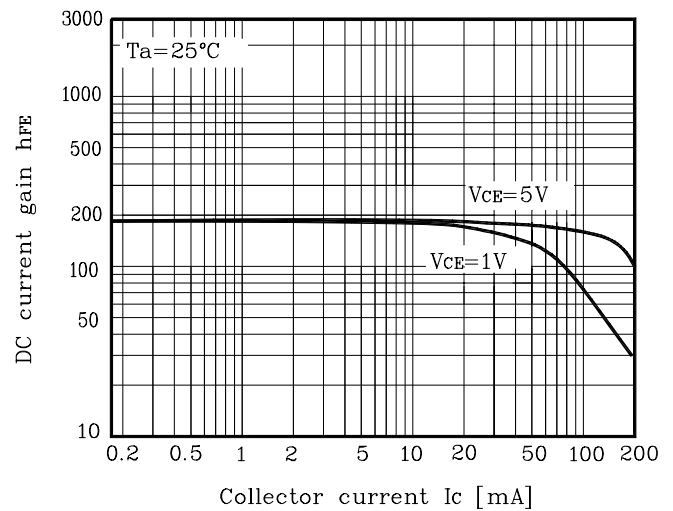


Fig. 5 $V_{CE(sat)} - I_C$

