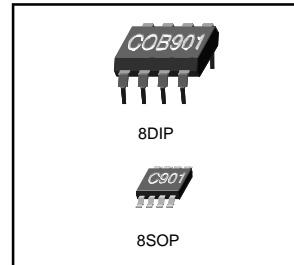


DESCRIPTIONS

The COB901 is a semiconductor integrated circuit with amplifier for a high-speed earth leakage circuit breaker. The COB901, an advanced ground fault interrupter consists of differential amplifier, internal time delay, latch circuit and precision voltage reference.

It is connected to the secondary side of the zero current transformer (ZCT) which detects leakage current in the both inputs of the differential amplifier. It drives a thyristor connected to the output terminal of latch circuit. The internally integrated high frequency noise filter can eliminate the abnormal input noises. The operational amplifier's output noise rejection and adequate time delay acquisitions that are specified in KSC4613 can be achieved by internal blanking circuit.



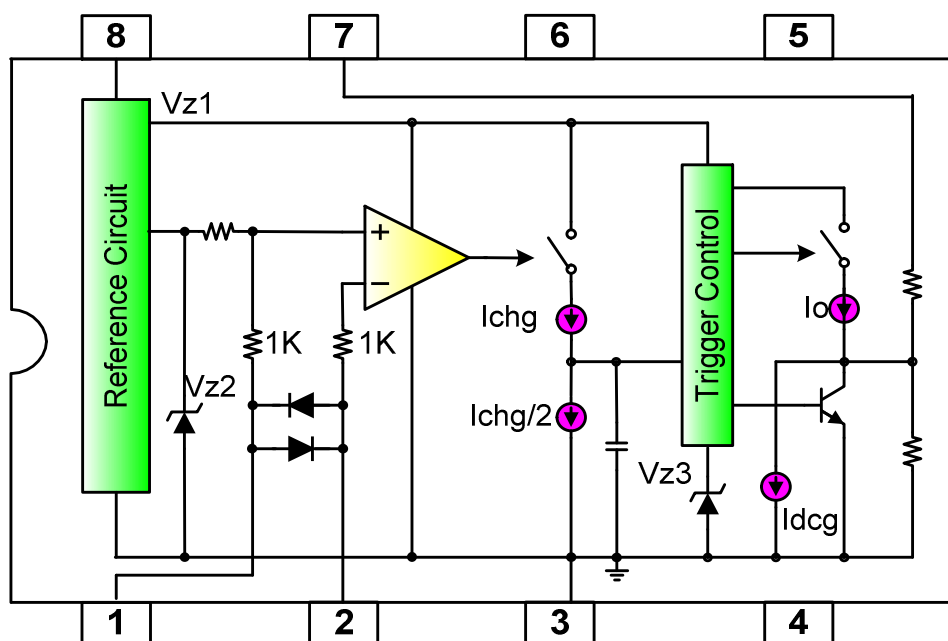
FEATURES

- Low Power Consumption ($P_d = 5\text{mW}$, 110V/220V)
- Input High Frequency Noise Filter
- Internal Blanking Circuit
- Internal Noise Removal Block
- High Gain Differential Amplifier
- Minimum 100 μA Output Current to Trigger SCR
- Extremely Minimized External Part Counts
- High noise immunity, large surge margin
- PELLET, 8DIP, 8SOP package

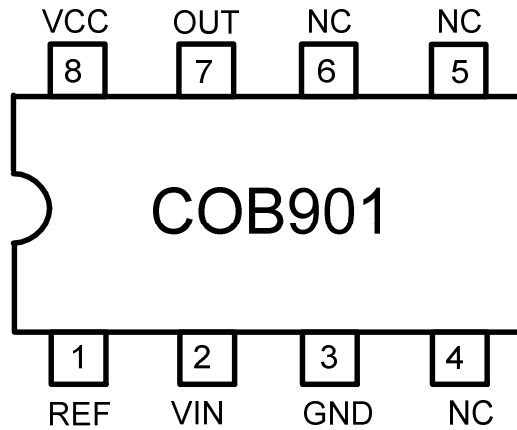
ORDER INFORMATION

Device	Package	Operating Temp
COB901P	PELLET	-30°C ~ +80°C
COB901	8DIP	
C901	8SOP	

BLOCK DIAGRAM



PIN CONNECTIONS(PKG)



PIN DESCRIPTIONS

NO	SYMBOL	I/O	DESCRIPTION
1	REF	I	REFERENCE INPUT
2	VIN	I	NEGATIVE INPUT
3	GND	-	GROUND
4	NC	-	NO CONNECTION
5	NC	-	NO CONNECTION
6	NC	-	NO CONNECTION
7	OUT	O	SIGNAL OUTPUT
8	VCC	I	SUPPLY VOLTAGE

ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTICS	SYMBOL	VALUE	UNIT
Maximum Supply Current	ICCmax	10	mA
Operating Maximum Supply Voltage	VCCmax	20	V
Power Dissipation(8DIP/8SOP)	Pd	800 / 500	mW
REF Pin Current(Note 1)	VIN Pin Bias	100	mA
	GND Pin Bias	20	mA
VIN Pin Current(Note 1)	REF Pin Bias	100	mA
	GND Pin Bias	20	mA
Operating Junction Temperature	Tj	-30 ~ +80	°C
Storage Temperature	Tstg	-55 ~ 125	°C

Note 1 ; Input Current must be less than 1ms of the pulse width and its duty must be less than 10%.

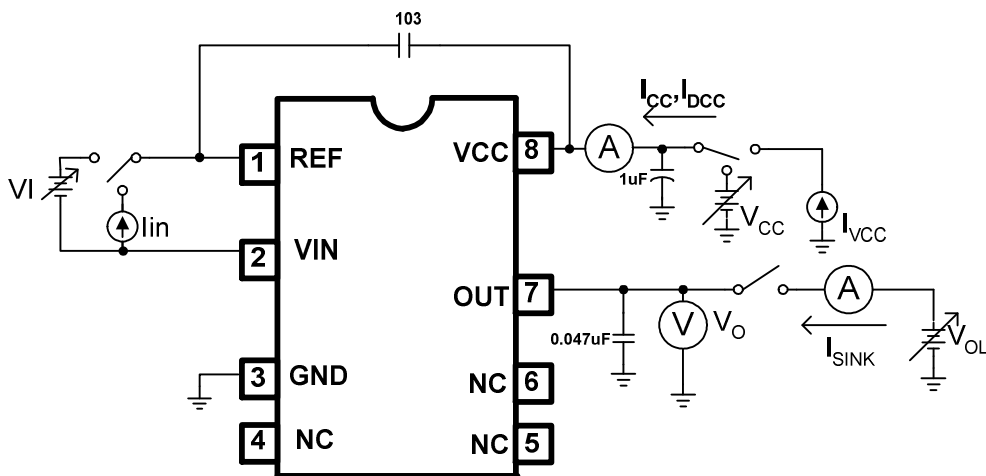
ELECTRICAL CHARACTERISTICS

(Ta = 25°C, unless otherwise specified.)

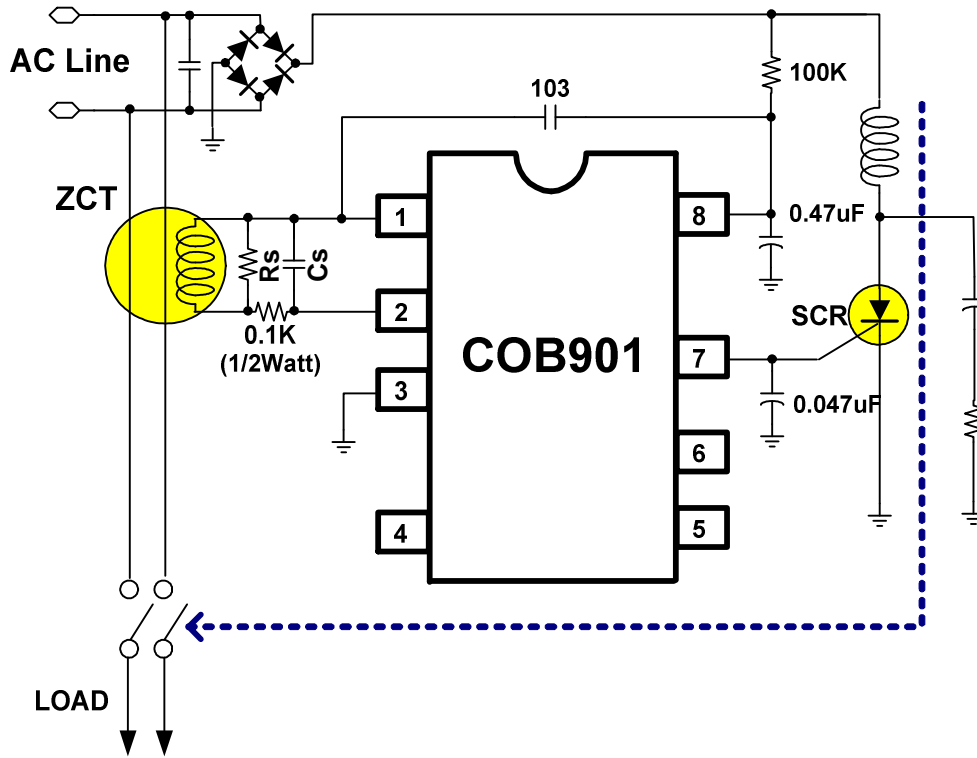
CHARACTERISTICS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Supply Current	I_{CC}	$V_{CC}=16V, V_I=0V$	-	350	550	μA
Drive Supply Current	I_{DCC}	$V_{CC}=16V, V_I=30mV, V_O=0.7V$	-	0.7	1.2	mA
Output Saturation Voltage	V_{sat}	$I_{V_{CC}}=2mA, V_I=0V$	-	-	300	mV
Output Sinking Capability	I_{sink}	$I_{V_{CC}}=2mA, V_I=0V, V_{OL}=5V$	1.5	3.0	4.5	mA
Trip Voltage(Note 2)	V_{trip}	$I_{V_{CC}}=2mA, V_I=Variable$	10	13.5	17	mV
Trip Time	T_{trip}	$I_{V_{CC}}=2mA, V_I=30mV$	2	4	6	ms
Output current	I_o	$I_{V_{CC}}=2mA, V_I=30mV$	100	250	500	μA
Differential Input Clamp Voltage	V_{DCC}	$I_{in} = \pm 100mA$	0.4	1.1	2.5	V

Note 2 ; Input Voltage Signal(REF, VIN) should be continued more than 6ms.

TEST CIRCUIT



TYPICAL APPLICATION



ELECTRICAL DIAGRAMS

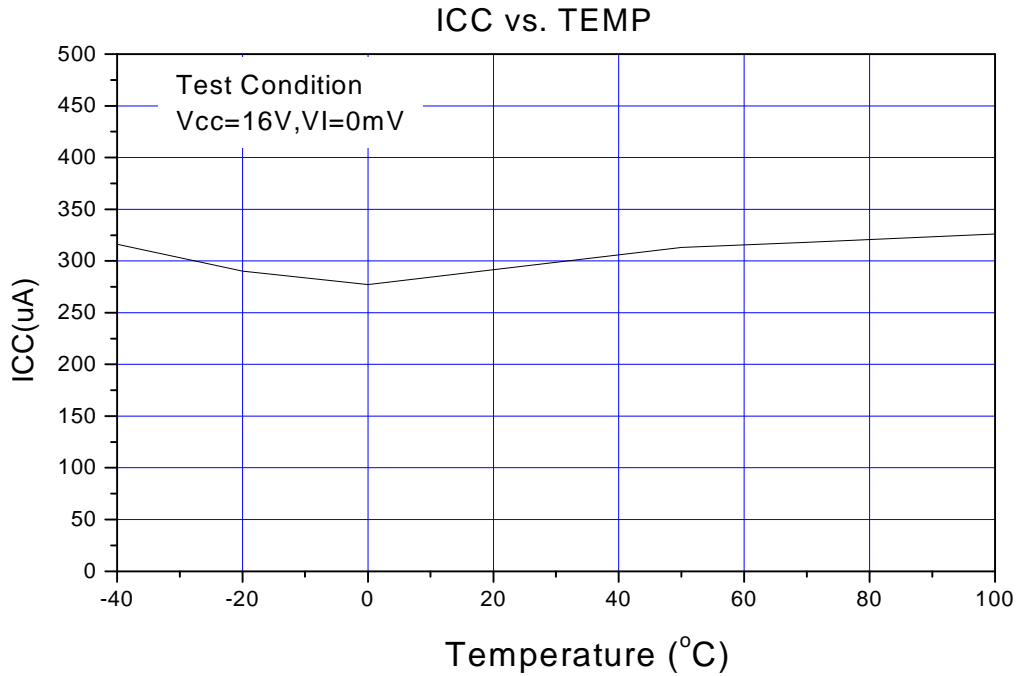


Fig.1 : Supply Current .vs. Temperature

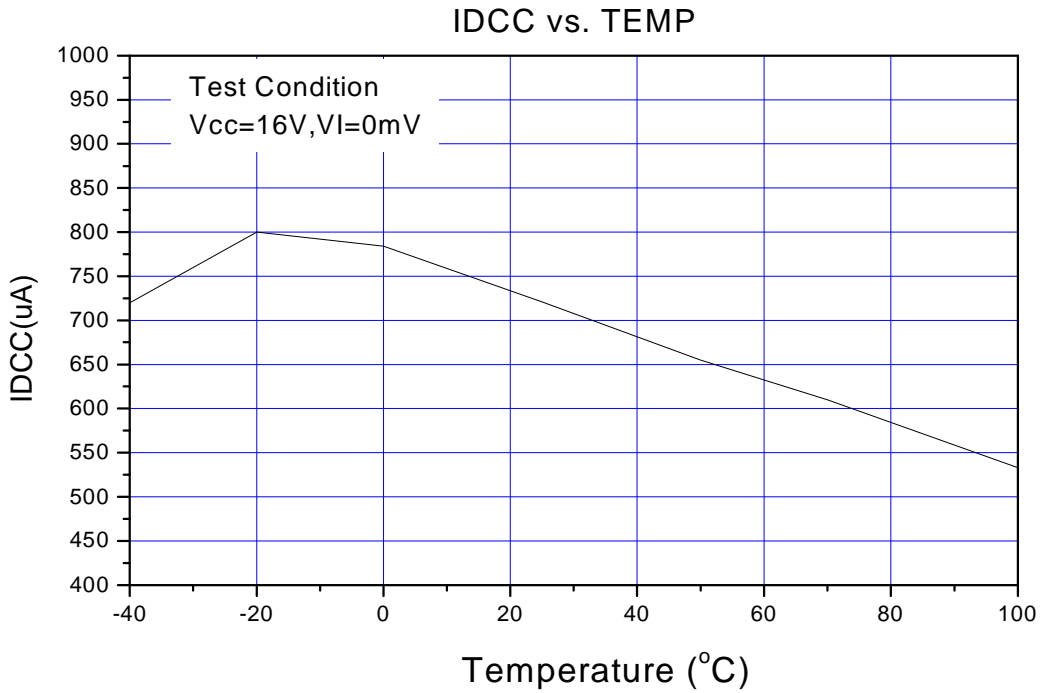


Fig.2 : IDCC vs. Temperature

ELECTRICAL DIAGRAMS

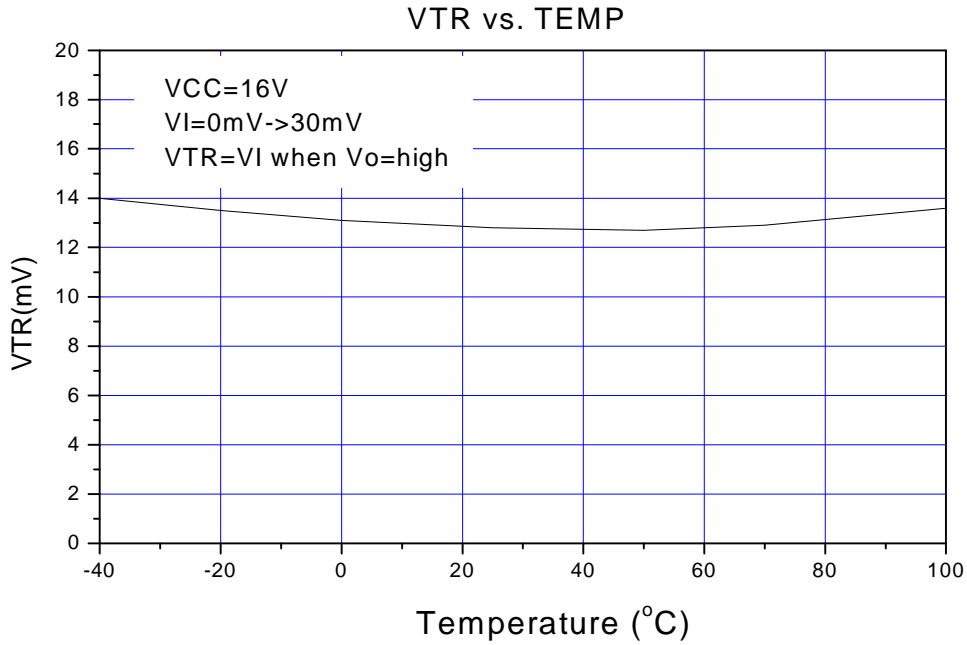


Fig.3 : Trip Voltage vs. Temperature

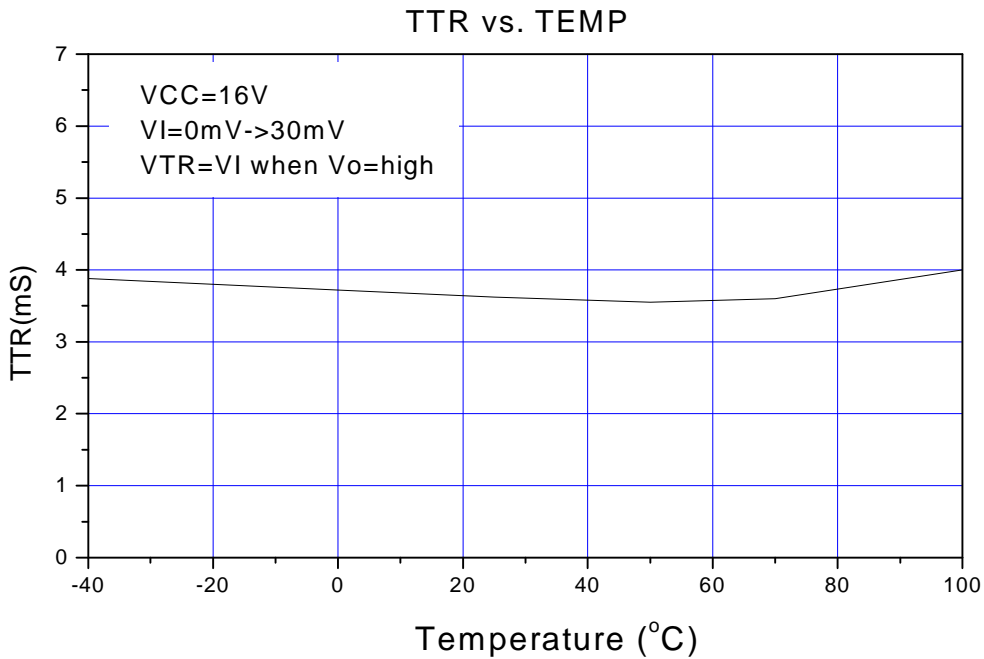


Fig.4 : Trip Time vs. Temperature

ELECTRICAL DIAGRAMS

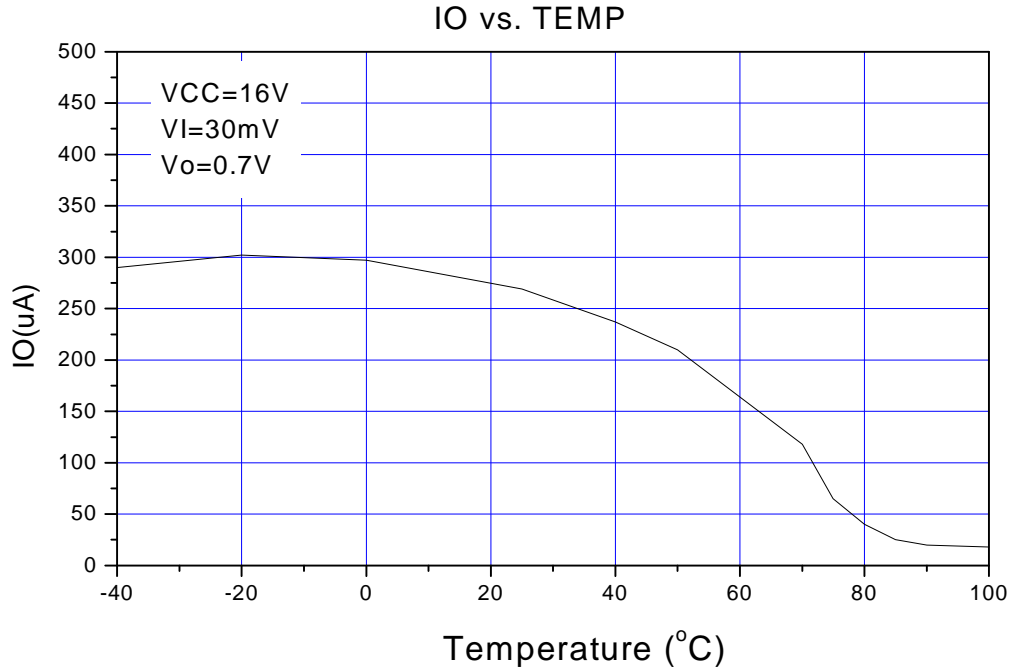


Fig.5 : Output Current vs. Temperature

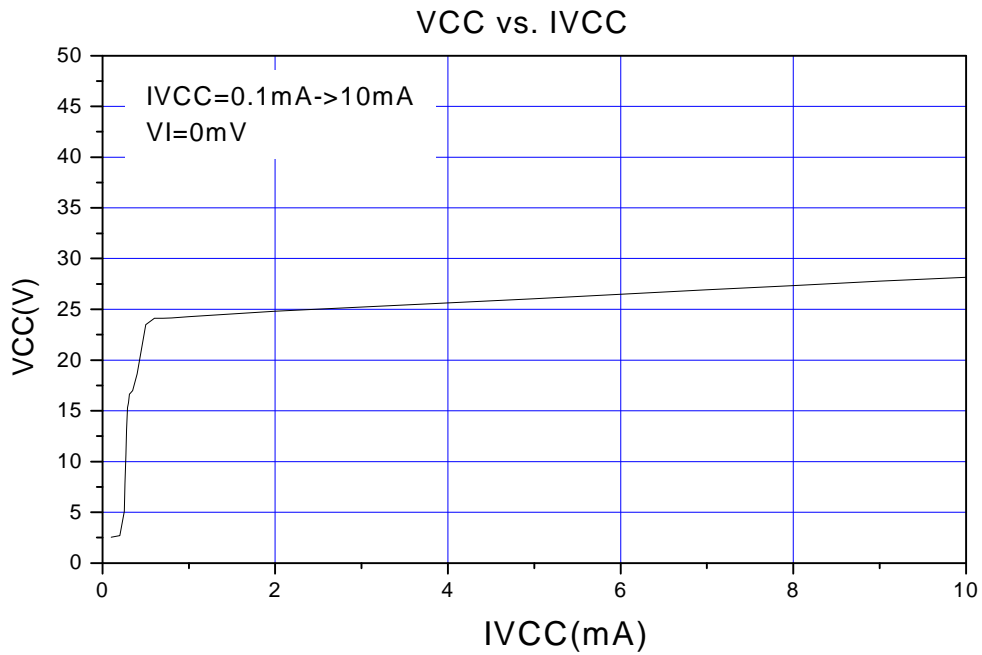
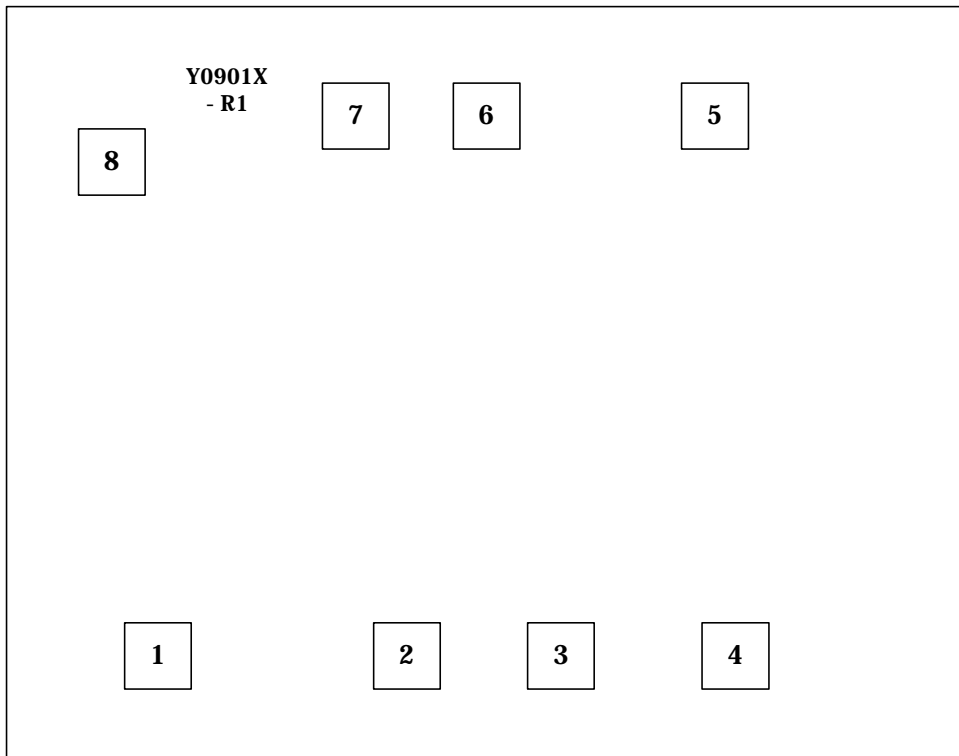


Fig.6 : VCC vs. IVCC

PAD INFORMATION



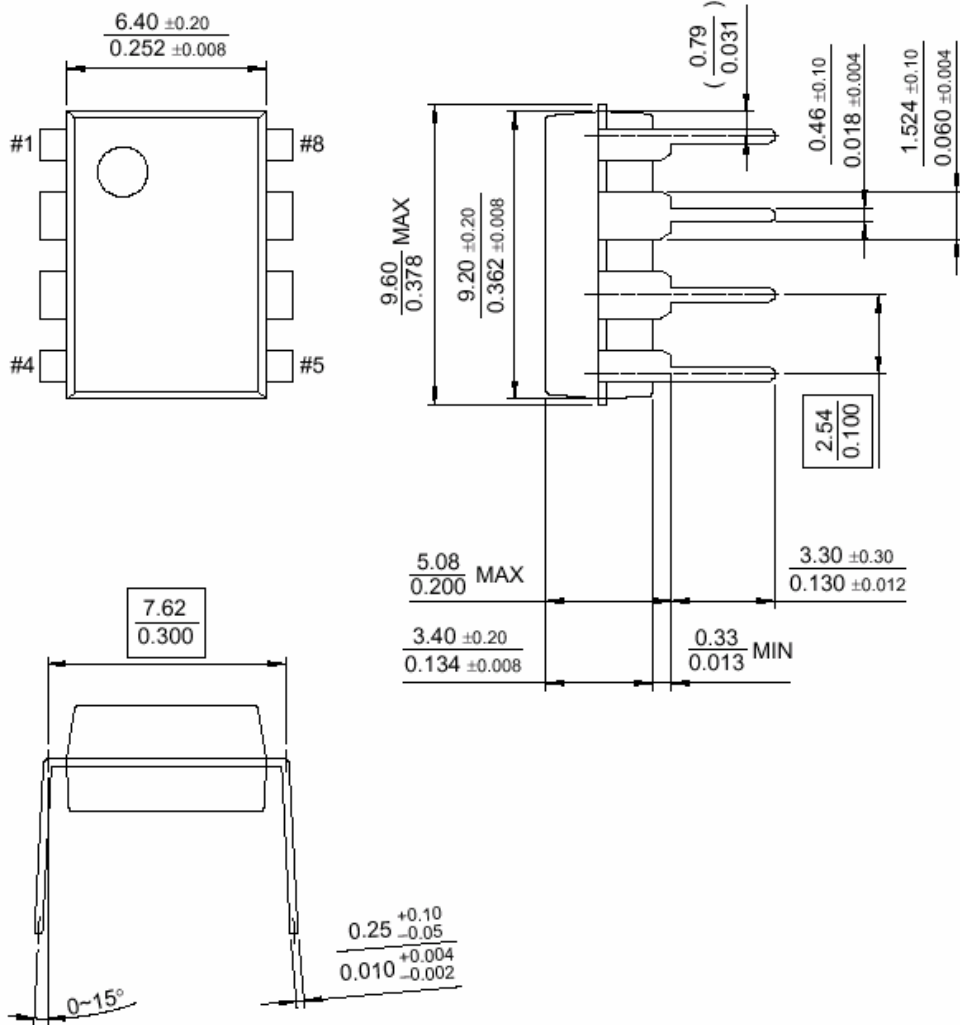
(0,0)

* Coordinates

PAD No.	NAME	Coordinates		PAD Size	Bonding	Probe Tip
		X(um)	Y(um)			
1	REF	229	166	90um X 90um	Bonding	Tip
2	VIN	556	166	90um X 90um	Bonding	Tip
3	GND	759.5	166	90um X 90um	Bonding	Tip
4	N/C	988.5	166	90um X 90um	Bonding (Option)	Tip
5	N/C	960.5	884	90um X 90um	Bonding (Option)	Tip
6	N/C	659.5	884	90um X 90um	Bonding (Option)	Tip
7	OUT	489.5	884	90um X 90um	Bonding	Tip
8	VCC	166	821	90um X 90um	Bonding	Tip

PACKAGE DIMENSION

8-DIP



PACKAGE DIMENSION

8-SOP

