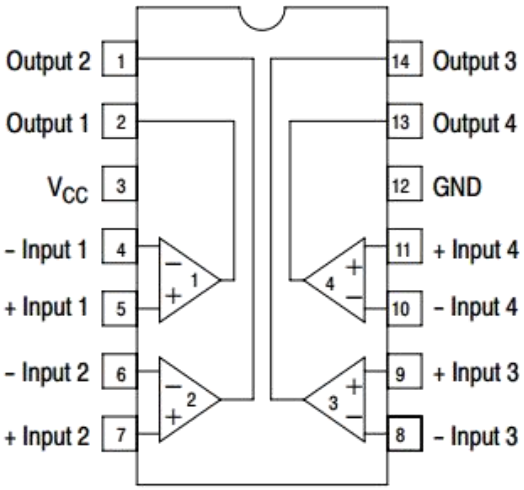
DESCRIPTION

The LM339 consists of four independent voltage comparators designed specifically to operate from a single power supply over a wide voltage range.

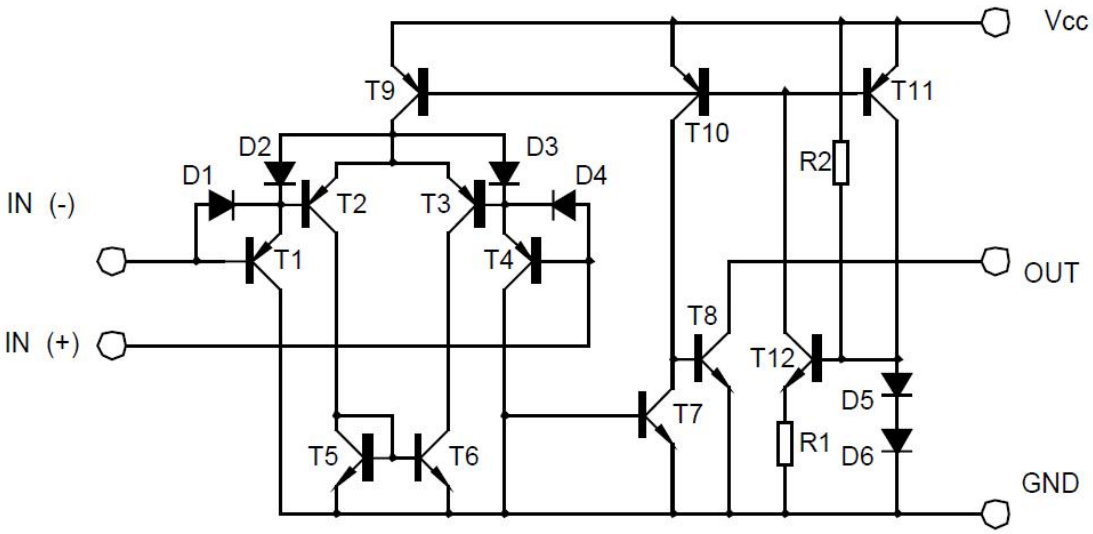
FEATURES

- Single or dual supply operation
- Wide operating supply range:(Vcc=3V~30V or ±1.5 to ±15V)
- Input common-mode voltage includes ground
- Low supply current drain: Icc=0.8mA(Typical)
- Low input bias current Ibias=25nA(Typical)
- Output compatible with TTL,DTL,and CMOS logic System

PIN CONFIGURATION



BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS(Ta=25°C)

Characteristic	Symbol	Volue	Unit
Supply Voltage	VCC	±15 OR +30	V
Differential input voltage	Vi（diff）	30	V
Input Voltage	VI	-0.3~30V	V
Power Dissipation	Pd	570	V
Operating Temperature	Topr	0 to +70	℃
Storage Temperature	Tstg	-65 to 150	℃

ELECTRICAL CHARACTERISTICS

(Vcc=5.0V, Ta=25°C,All voltage referenced to GND unless otherwise specified)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Input offset voltage	VIO	VCM=0 to VCC-1.5,		±4.0	±7.0	mV
Input offset current	IIO	VO(P)=1.4V,Rs=0		±5	±50	nA
Input Bias current	Ib			65	250	nA
Input Commom-mode voltage range	VI(R)		0		VCC-1.5	V
Differential Input Voltage	VI(diff)				30	V
Supply Current	ICC	RL=∞		0.6	1.0	mA
		RL=∞,VCC=30V		0.8	2.5	mA
Large signal Voltage Gain	GV	VCC=15V,RL＞15KΩ	50	200		V/mV
Large signal response time	tres	Vi=TTL logic wing Vref=1.4V,VRL=5V,RL=5.1k		350		ns
Response time	tres	VRL=5V, RL=5.1KΩ		1400		ns
Output sink current	Isink	Vi(-)＞1V,Vi(+)=0V,Vo(P)＜1.5V	6	18		mA
Output saturation voltage	Vsat	Vi(-)＞1V,Vi(+)=0V,Isink=4mA	160	400		mV
Output leakage current	Ileakage	VI(+)=1V,VI(-)=0,VO(P)=5V	0.1			nA

TYPICAL CHARACTERISTICS PERFORMANCE

Fig.1 supply current

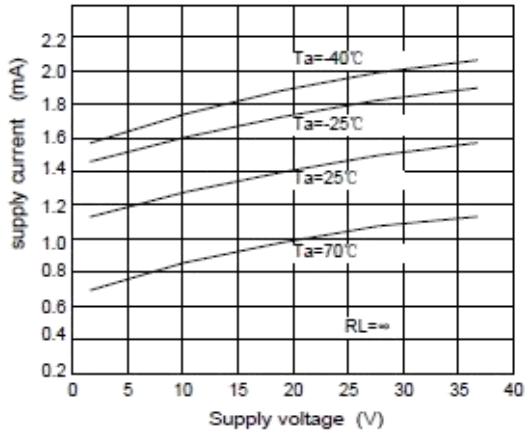


Fig.2 Input current

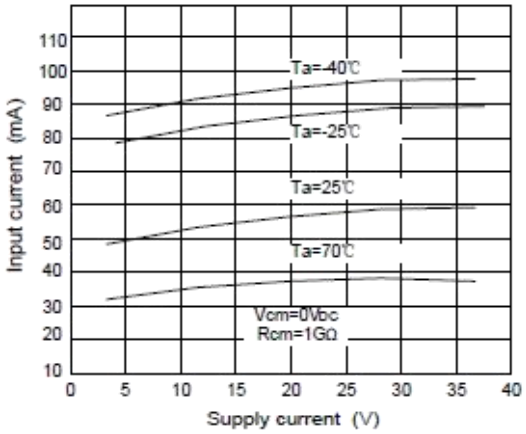


Fig.3 Output saturation voltage

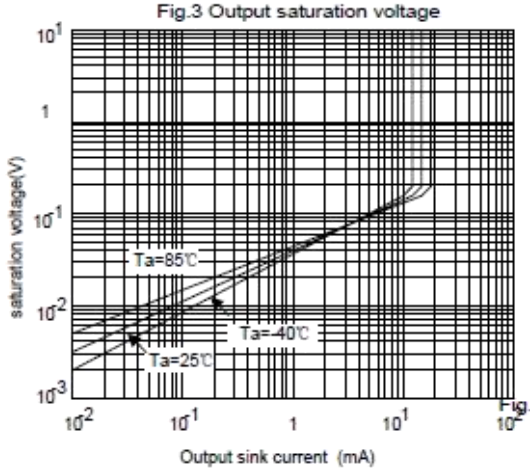


Fig.4 Reponse time for various input overdrive negative transition

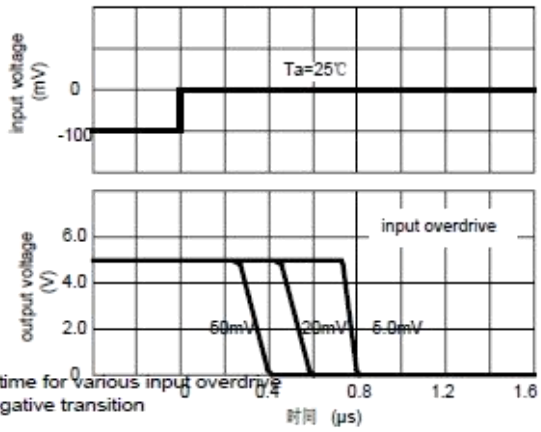


Fig.4 Reponse time for various input overdrive negative transition

Fig.4 Reponse time for various input overdrive positive transition

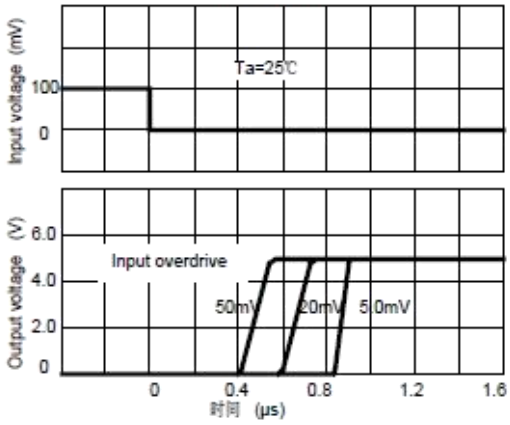


Fig.7

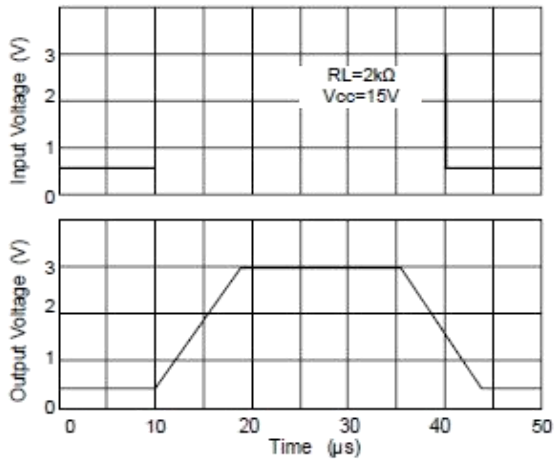


Fig.8 voltage Follower pulse response (small signal)

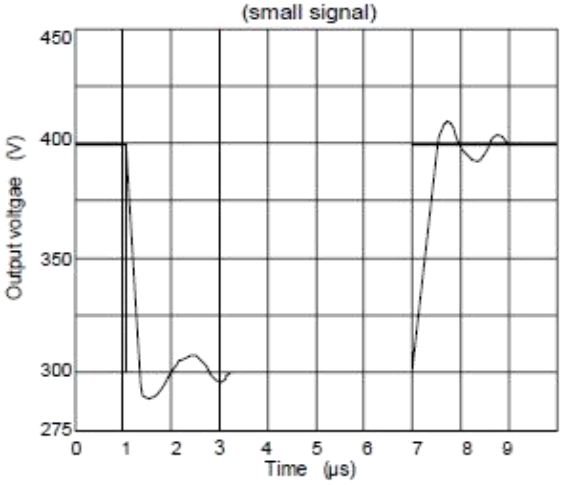


Fig.9 Large signal Frequency Response

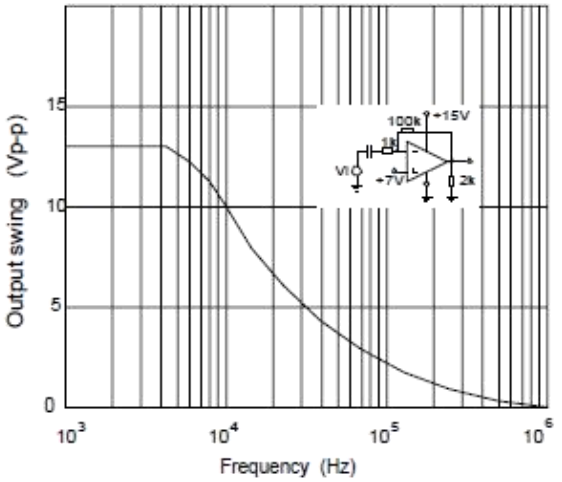


Fig.10 Output Characteristics current sourcing

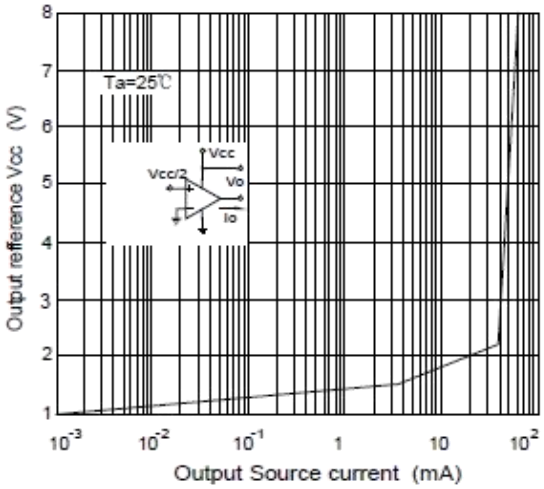


Fig.11 Output Characteristics Current sinking

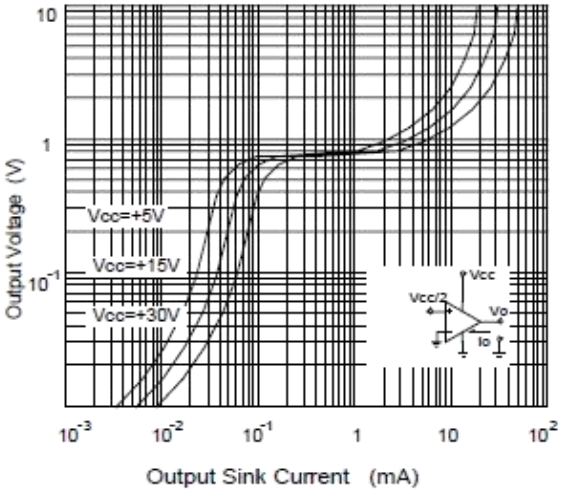
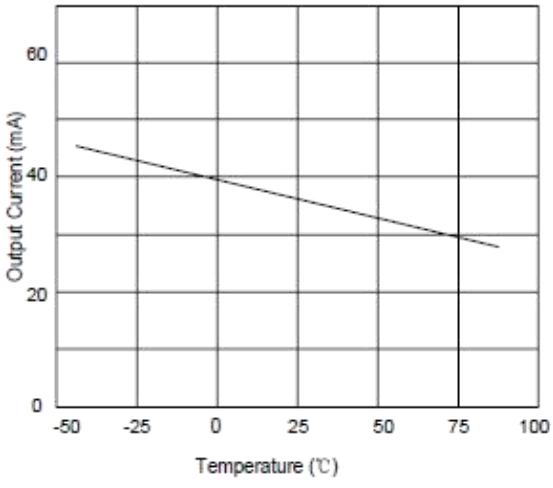
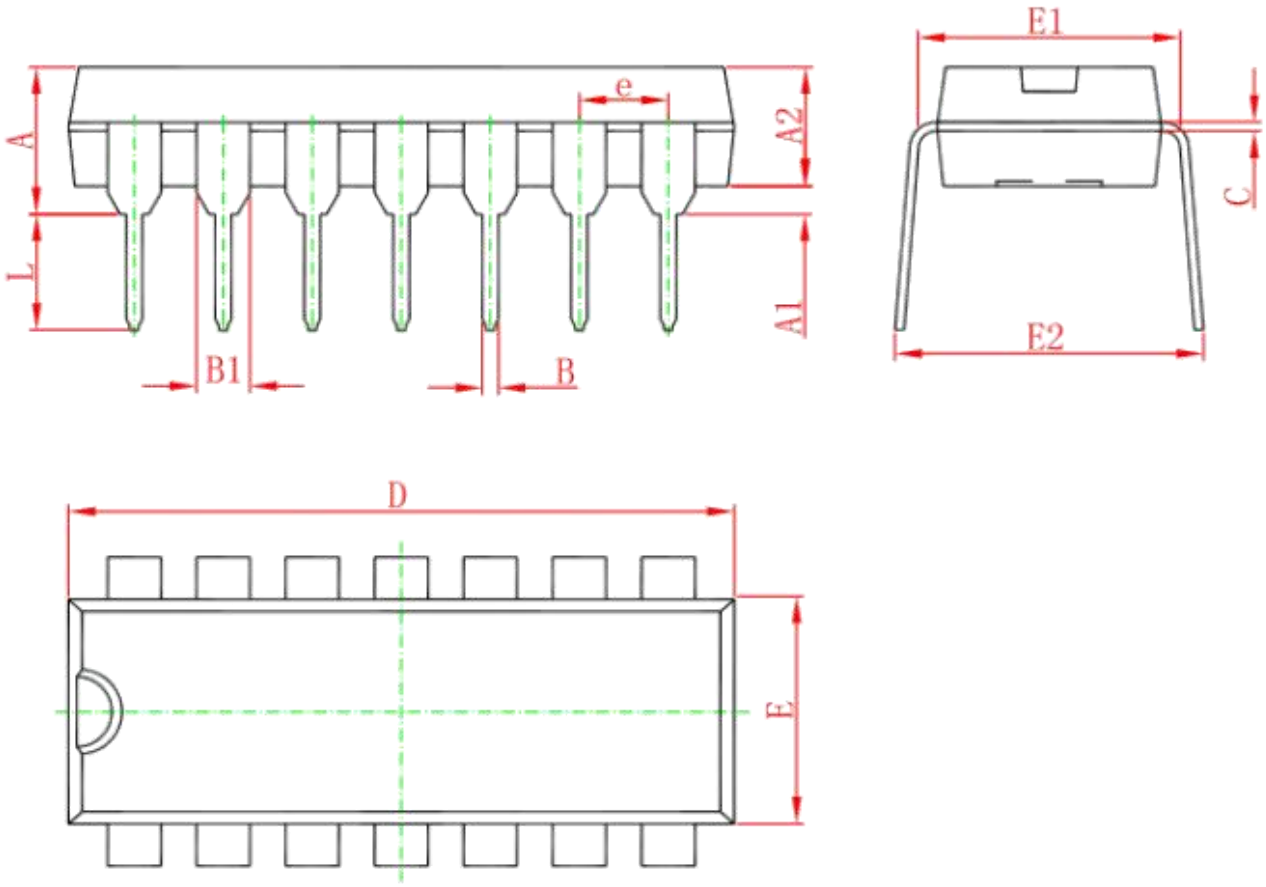


Fig.12 Current Limiting



OUTLINE DIMENSIONS

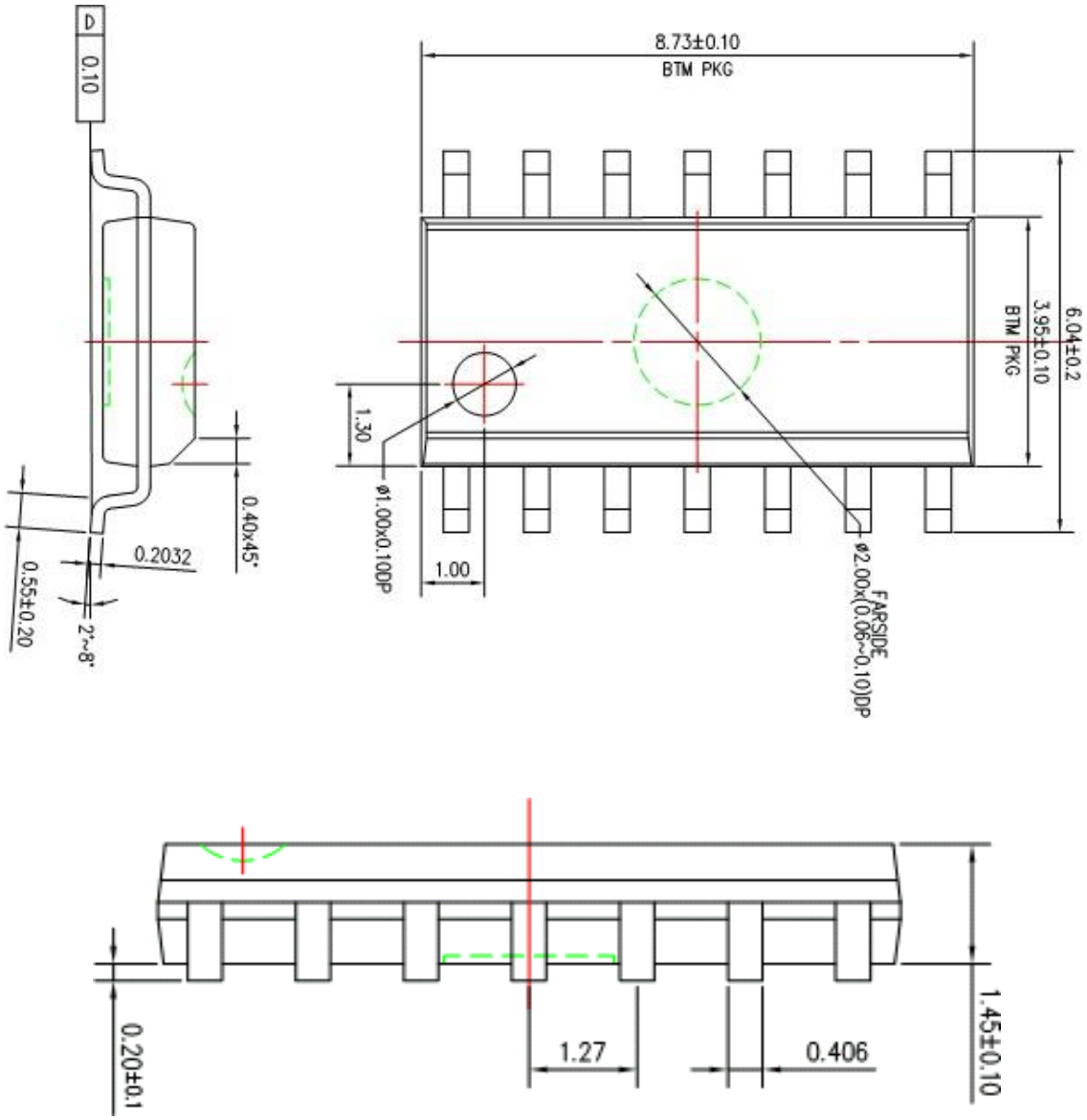
DIP-14



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.710	4.310	0.146	0.170
A1	0.510		0.020	
A2	3.200	3.600	0.126	0.142
B	0.380	0.570	0.015	0.022
B1	1.524 (BSC)		0.060 (BSC)	
C	0.204	0.360	0.008	0.014
D	18.800	19.200	0.740	0.756
E	6.200	6.600	0.244	0.260
E1	7.320	7.920	0.288	0.312
e	2.540 (BSC)		0.100 (BSC)	
L	3.000	3.600	0.118	0.142
E2	8.400	9.000	0.331	0.354

OUTLINE DIMENSIONS

SOP-14(SOIC-14)



Attention

■ Any and all HUA XUAN YANG ELECTRONICS products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your HUA XUAN YANG ELECTRONICS representative nearest you before using any HUA XUAN YANG ELECTRONICS products described or contained herein in such applications.

■ HUA XUAN YANG ELECTRONICS assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all HUA XUAN YANG ELECTRONICS products described or contained herein.

■ Specifications of any and all HUA XUAN YANG ELECTRONICS products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer's products or equipment.

■ HUA XUAN YANG ELECTRONICS CO.,LTD. strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with some probability. It is possible that these probabilistic failures could
give rise to accidents or events that could endanger human lives, that could give rise to smoke or fire, or that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits and error prevention circuits for safe design, redundant design, and structural design.

■ In the event that any or all HUA XUAN YANG ELECTRONICS products(including technical data, services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported without obtaining the export license from the authorities concerned in accordance with the above law.

■ Information (including circuit diagrams and circuit parameters) herein is for example only ; it is not guaranteed for volume production. HUA XUAN YANG ELECTRONICS believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.

■ Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. When designing equipment, refer to the "Delivery Specification" for the HUA XUAN YANG ELECTRONICS product that you intend to use.