

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA75393P, TA75393PA, TA75393S, TA75393F, TA75393FB

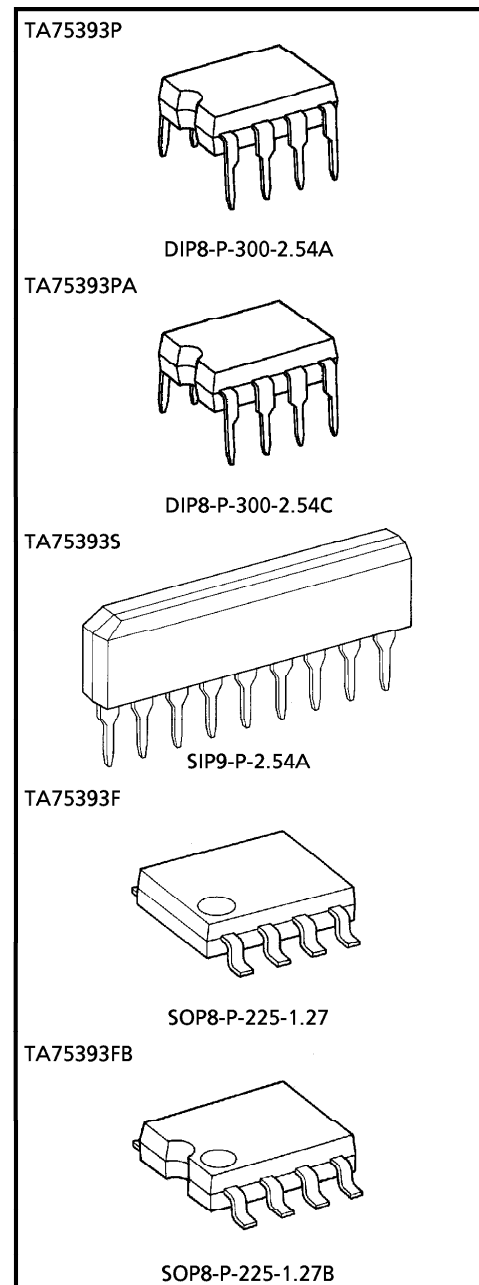
DUAL COMPARATOR

This device consist of two independent voltage comparators that designed to operate from a single power supply over a wide range of voltage. Normal Operation from dual supplies is also to be guaranteed on voltage range from 2V to 36V. V_{CC} is necessary at least more 1.5V than the input common mode voltage. The output can be connected to other open collector outputs to achieve Wired-OR relation ship.

FEATURES

- Be possible to operate at the wide range single or two supply voltage.
2~36V or $\pm 1\sim 18V$
- Low supply current : 0.8mA (Typ.)
- Low input offset voltage : $\pm 2mV$ (Typ.)
- Wide common mode input voltage : $0\sim V_{CC} - 1.5V$
- Output is compatible with TTL, DTL, MOS and C-MOS.
- Output is open collector and wired-OR possible.

Weight	
DIP8-P-300-2.54A	: 0.5g (Typ.)
DIP8-P-300-2.54C	: 0.6g (Typ.)
SIP9-P-2.54A	: 0.9g (Typ.)
SOP8-P-225-1.27	: 0.1g (Typ.)
SOP8-P-225-1.27B	: 0.1g (Typ.)

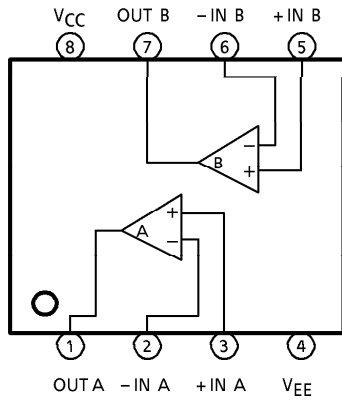


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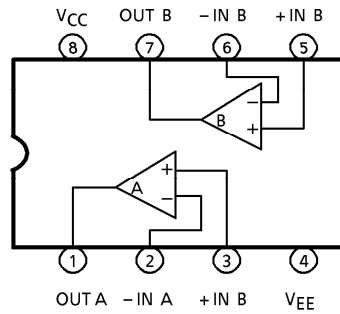
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PIN CONNECTION (TOP VIEW)

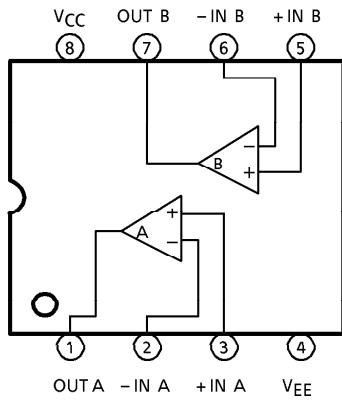
TA75393F



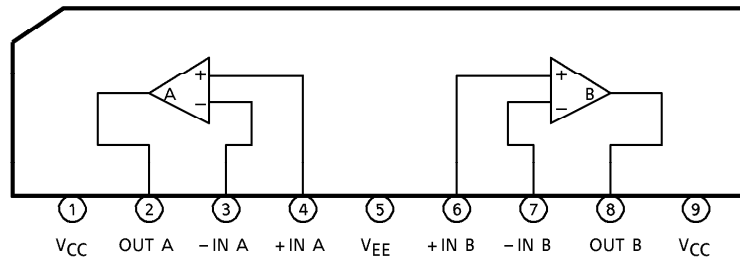
TA75393P, TA75393PA



TA75393FB



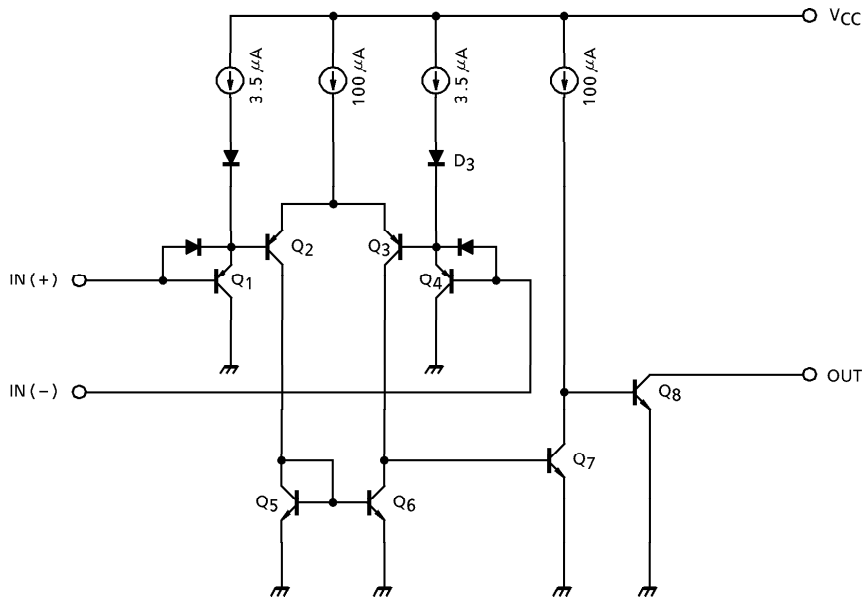
TA75393S



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EQUIVALENT CIRCUIT



MAXIMUM RATINGS (Ta = 25°C)

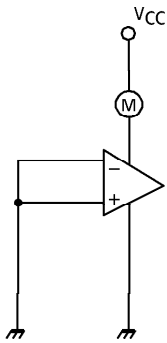
CHARACTERISTIC	SYMBOL	TA75393P TA75393PA TA75393S	TA75393F TA75393FB	UNIT
Supply Voltage	V _{CC}	± 18 OR 36	± 18 OR 36	V
Differential Input Voltage	DV _{IN}	± 36	± 36	V
Common Mode Input Voltage	CMV _{IN}	- 0.3~V _{CC}	- 0.3~V _{CC}	V
Power Dissipation	P _D	500	240	mW
Operating Temperature	T _{opr}	- 40~85	- 40~85	°C
Storage Temperature	T _{stg}	- 55~125	- 55~125	°C

ELECTRICAL CHARACTERISTICS (V_{CC} = 5V, Ta = 25°C)

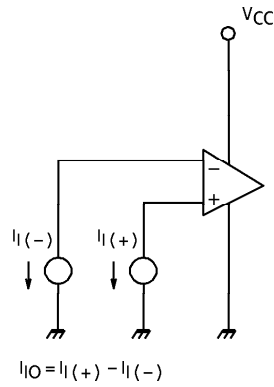
CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V _{IO}	4	—	—	2	5	mV
Input Bias Current	I _I	2	—	—	25	250	nA
Input Offset Current	I _{IO}	2	—	—	5	50	nA
Common Mode Input Voltage	CMV _{IN}	4	—	0	—	V _{CC} - 1.5	V
Voltage Gain	G _V	—	R _L = 15kΩ	—	200	—	V / mV
Supply Current	I _{CC}	1	No load	—	0.8	2	mA
Sink Current	I _{SINK}	5	IN (+) = 0V, IN (-) = 1V V _{OL} = 1.5V	6	16	—	mA
Output Voltage ("L" Level)	V _{OL}	5	IN (+) = 0V, IN (-) = 1V I _{SINK} = 3mA	—	0.2	0.4	V
Output Leak Current	I _{LEAK}	3	IN (+) = 1V, IN (-) = 0V V _O = 5V	—	0.1	—	nA
Response Time	t _{rsp}	6	R _L = 5.1kΩ, C _L = 15pF	—	1.3	—	μs

TEST CIRCUIT

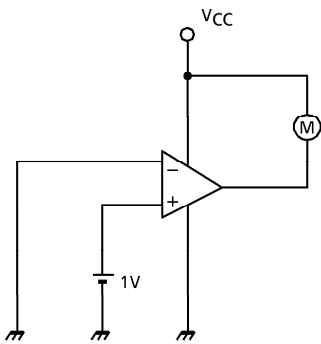
(1) I_{CC}



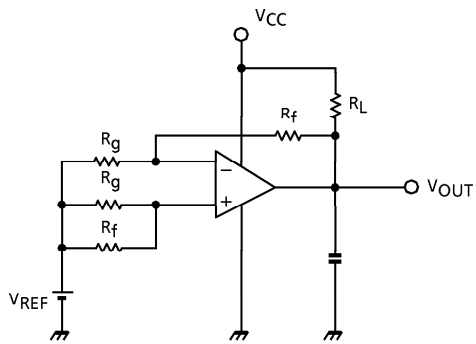
(2) I_I, I_{IO}



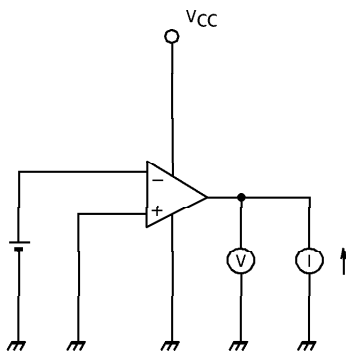
(3) I_{LEAK}



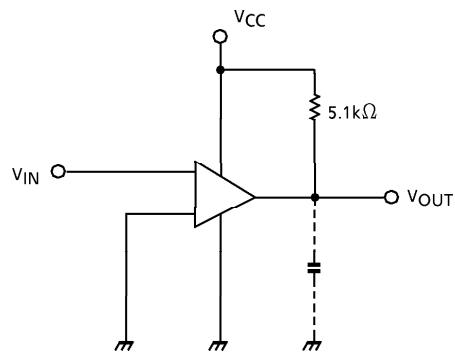
(4) V_{IO}, CMV_{IN}



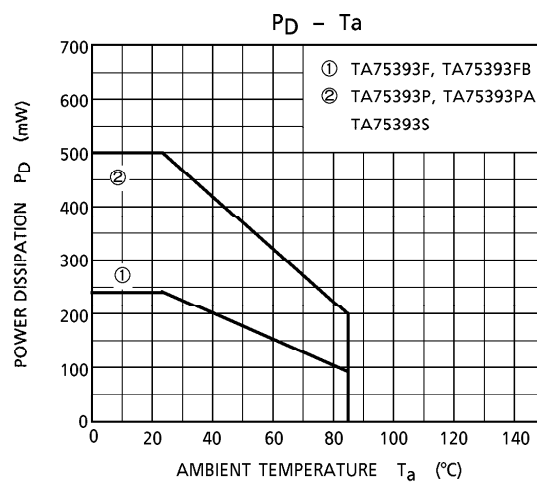
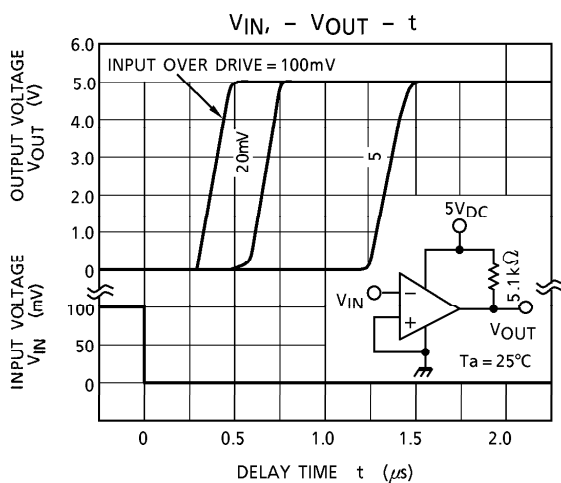
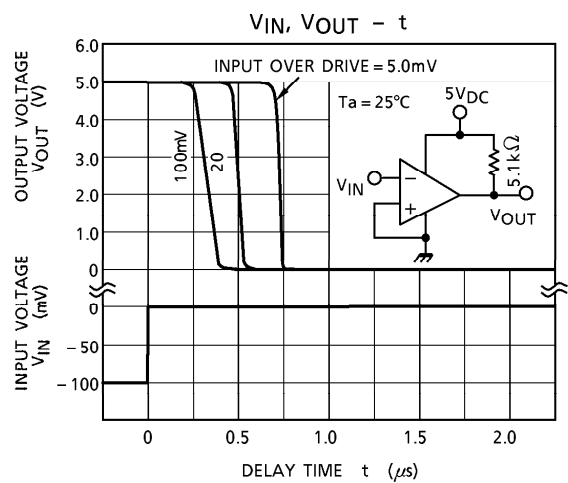
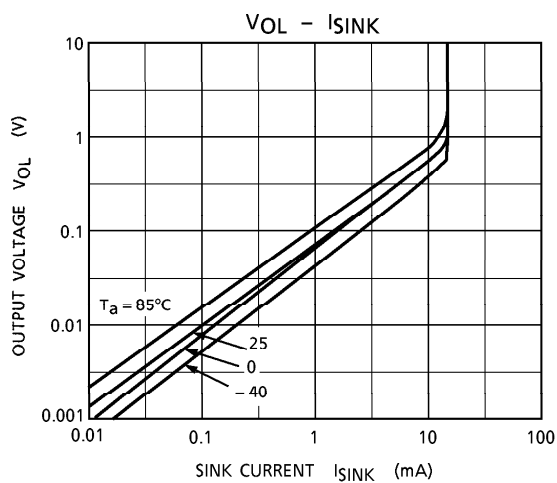
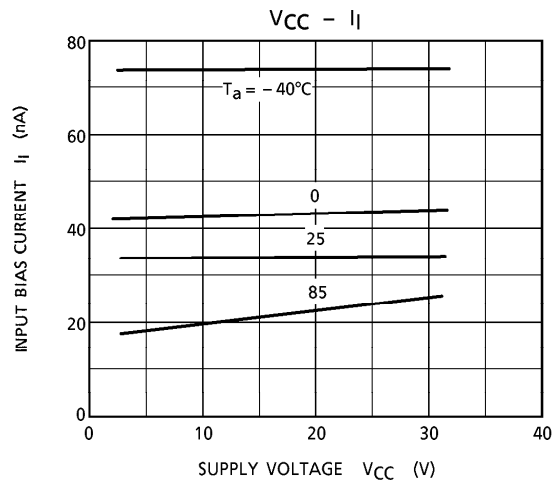
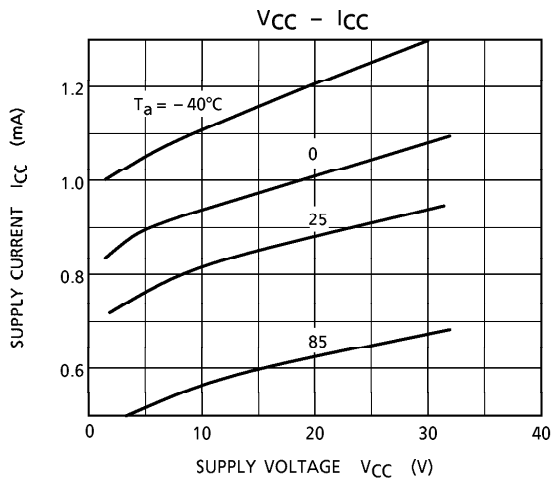
(5) I_{SINK}, V_{OL}



(6) t_{rsp}

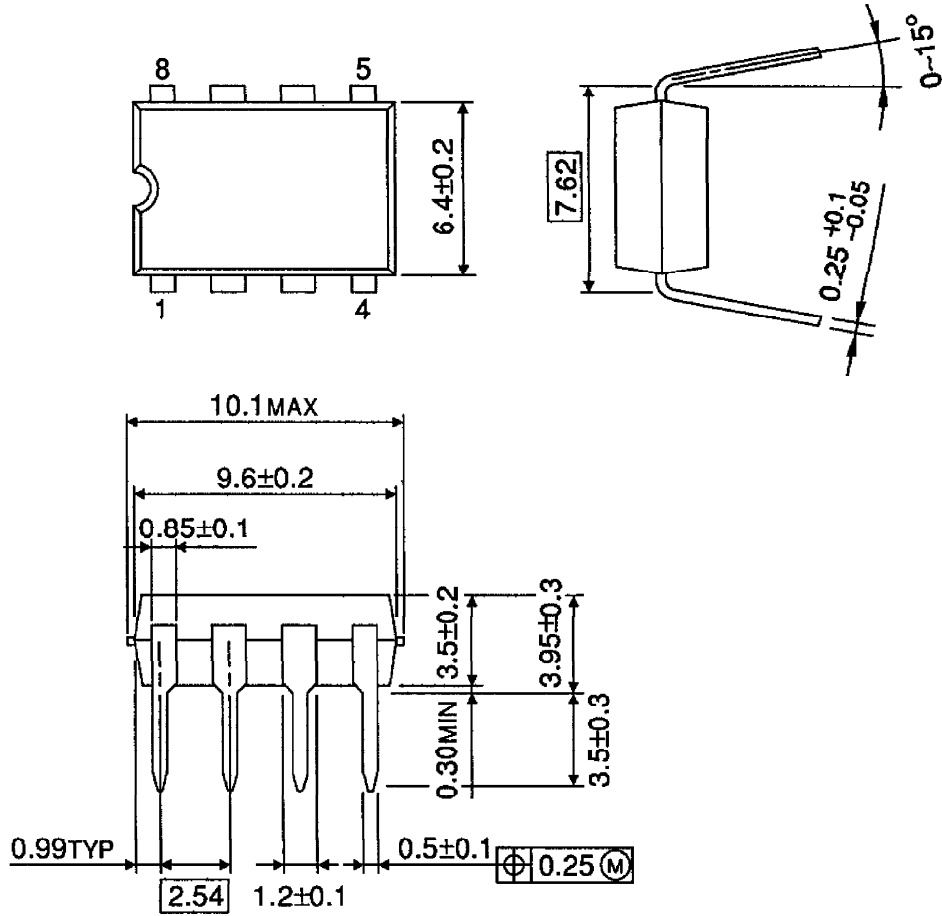


CHARACTERISTICS



OUTLINE DRAWING
DIP8-P-300-2.54A

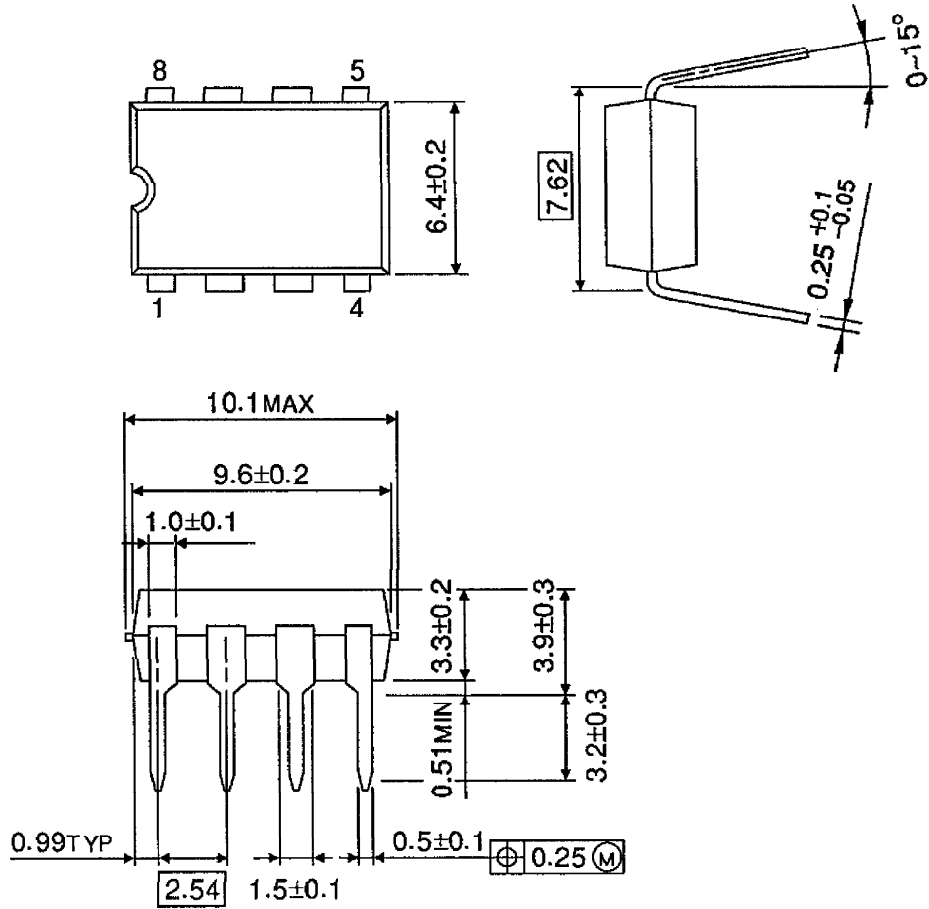
Unit : mm



Weight : 0.5g (Typ.)

OUTLINE DRAWING
DIP8-P-300-2.54C

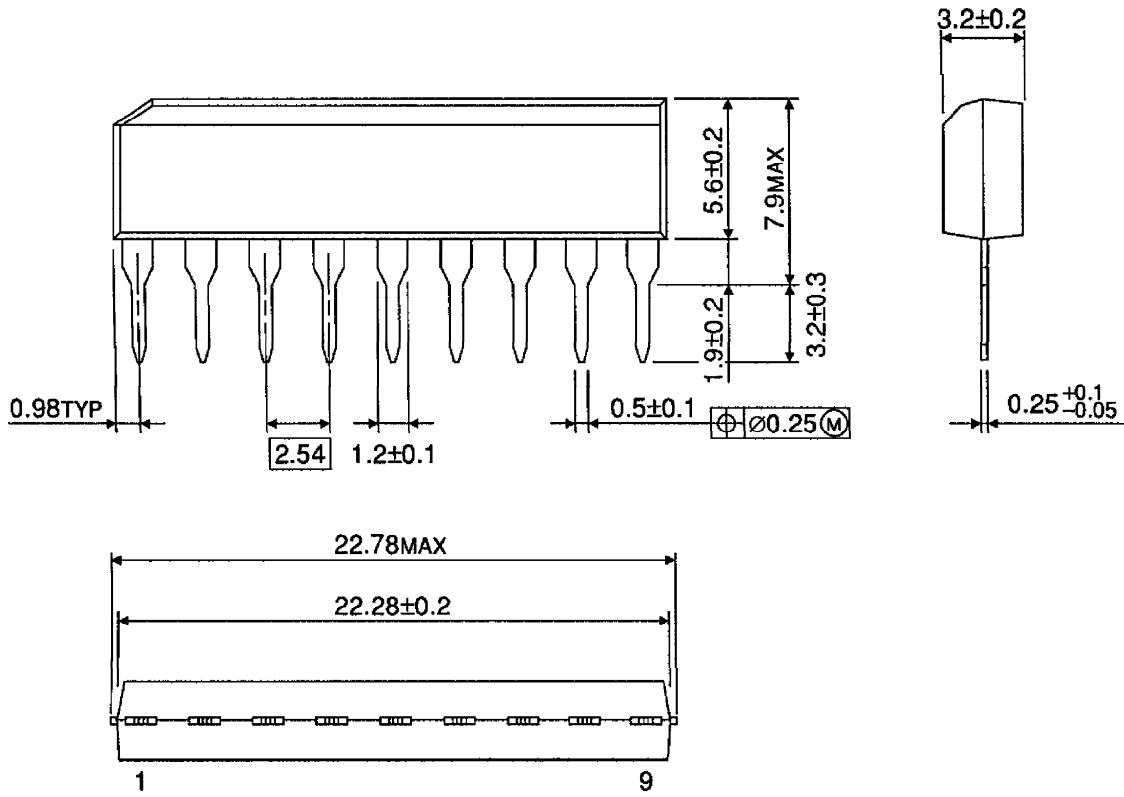
Unit : mm



Weight : 0.6g (Typ.)

OUTLINE DRAWING
SIP9-P-2.54A

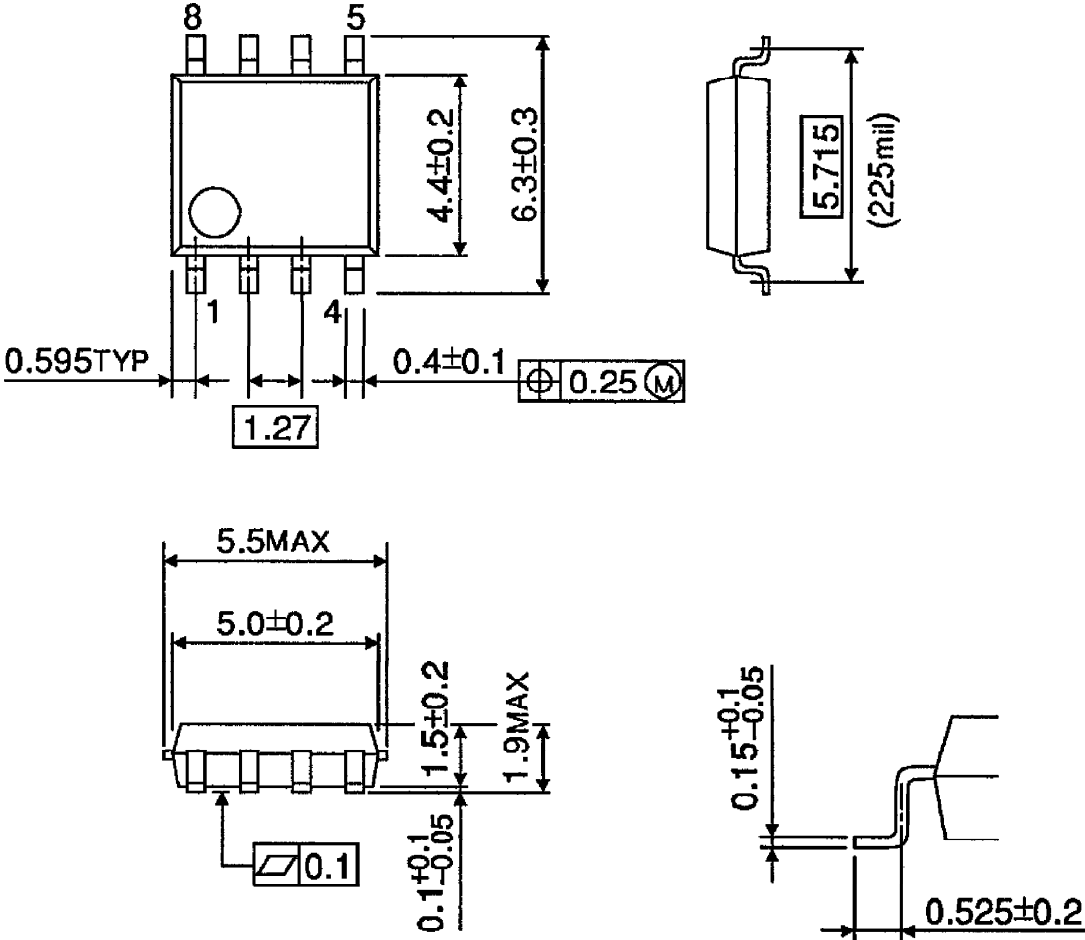
Unit : mm



Weight : 0.9g (Typ.)

OUTLINE DRAWING
SOP8-P-225-1.27

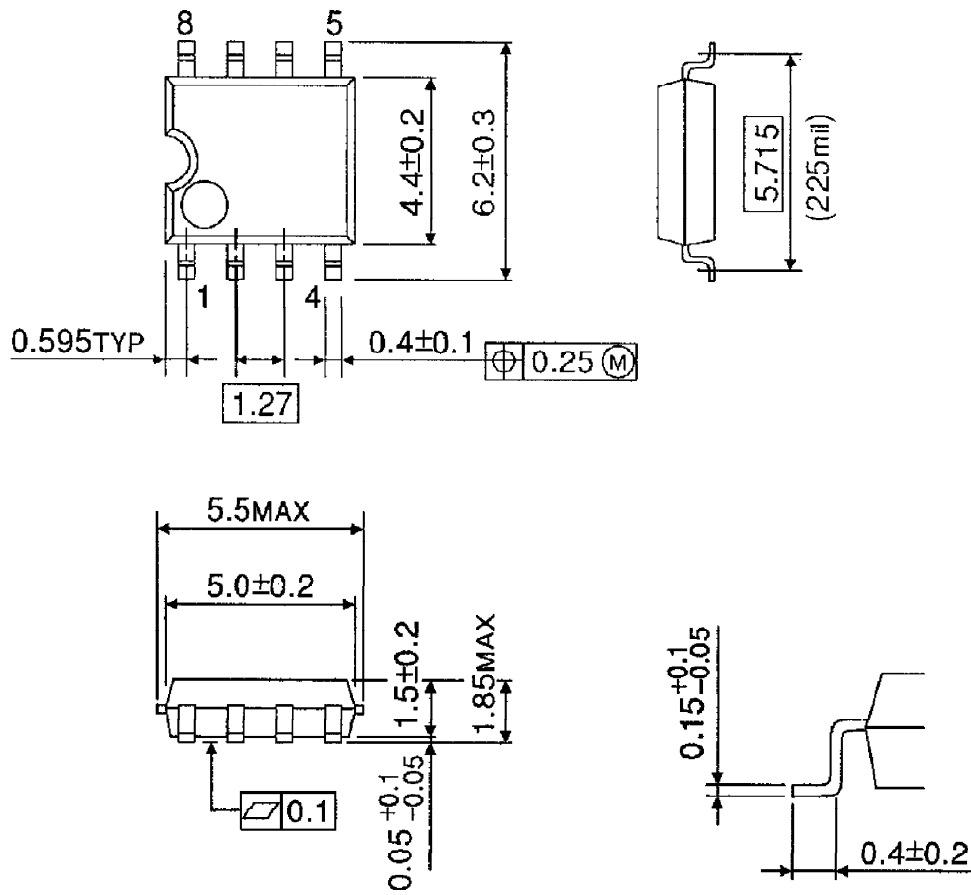
Unit : mm



Weight : 0.1g (Typ.)

OUTLINE DRAWING
SOP8-P-225-1.27B

Unit : mm



Weight : 0.1g (Typ.)