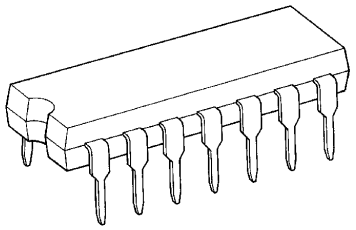
TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA75339P, TA75339F, TA75339FB

QUAD COMPARATOR

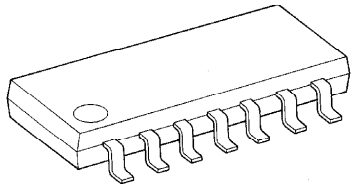
This device consist of four independent voltage comparators that designed to operate from a single power supply over a wide range of voltage.
Normal Operation from dual supplies is also to be guaranteed on voltage range from 2V to 36V.
V_{CC} is necessary at least more 1.5 volts than the input common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

TA75339P



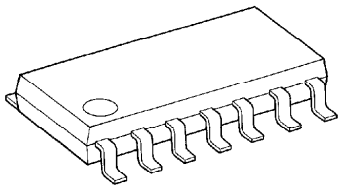
DIP14-P-300-2.54

TA75339F



SOP14-P-225-1.27

TA75339FB



SOP14-P-225-1.27B

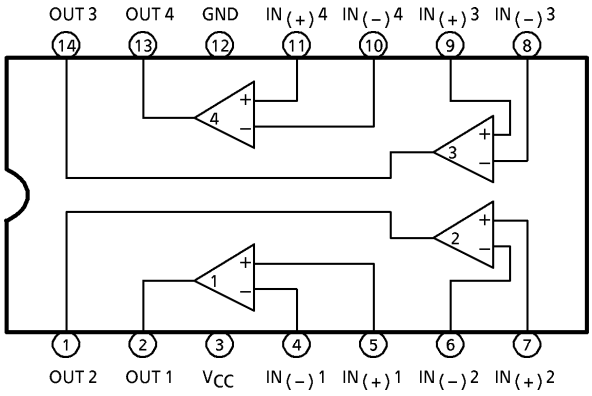
FEATURES

- Single Supply Voltage Range or Dual Supplies
  : 2V~36V or ±1V~18V
- Low Supply Current : 0.8mA (Typ.)
- Low Input Offset Voltage : ±2mA (Typ.)
- Wide Input Common Mode Voltage Range
  : 0V~V_{CC} – 1.5V
- Output Compatible with TTL, DTL, MOS and CMOS Logic System.
- The Output Can be Connected to Achieve Wired-OR Relation.

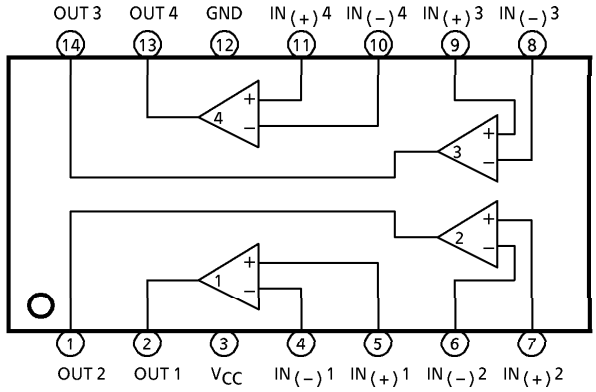
Weight
DIP14-P-300-2.54 : 1.0g (Typ.)
SOP14-P-225-1.27 : 0.2g (Typ.)
SOP14-P-225-1.27B : 0.2g (Typ.)

PIN CONNECTION (TOP VIEW)

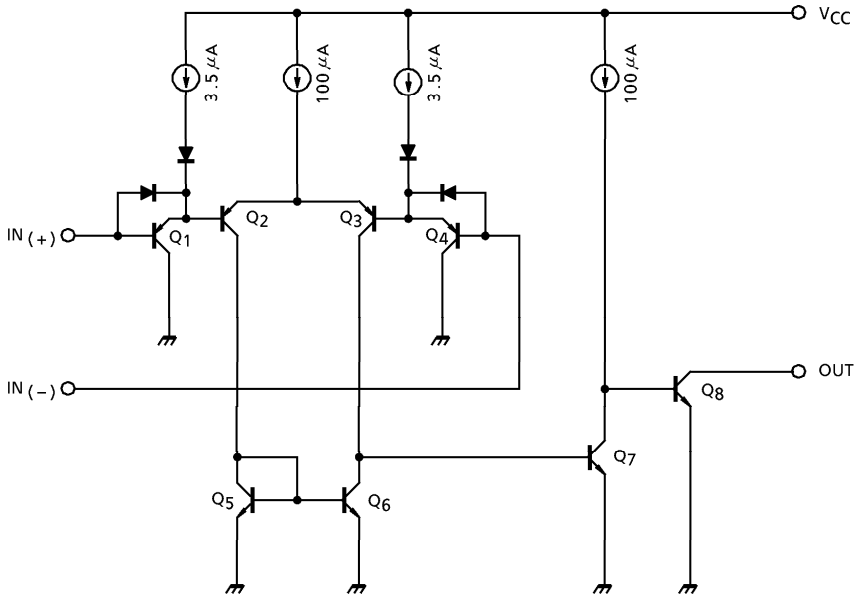
TA75339P



TA75339F / TA75339FB



EQUIVALENT CIRCUIT



MAXIMUM RATINGS (Ta = 25°C)

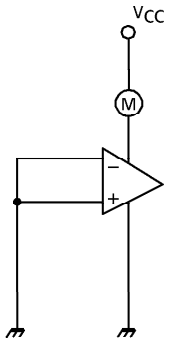
CHARACTERISTIC	SYMBOL	TA75339P	TA75339F	TA75339FB	UNIT
Supply Voltage	V_{CC}	±18 OR 36	±18 OR 36	±18 OR 36	V
Differential Input Voltage	DV_{IN}	±36	±36	±36	V
Common Mode Input Voltage	CMV_{IN}	−0.3~V_{CC}	−0.3~V_{CC}	−0.3~V_{CC}	V
Power Dissipation	P_D	625	280	280	mW
Operating Temperature	T_{opr}	−40~85	−40~85	−40~85	°C
Storage Temperature	T_{stg}	−55~125	−55~125	−55~125	°C

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

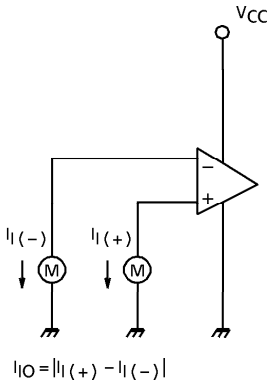
CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V_{IO}	4	—	—	2	5	mV
Input Offset Current	I_I	2	—	—	25	250	nA
Input Bias Current	I_{IO}	2	—	—	5	50	nA
Common Mode Input Voltage	CMV_{IN}	4	—	0	—	V_{CC} − 1.5	V
Voltage Gain	G_V	—	R_L = 15kΩ	—	200	—	V / mV
Supply 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

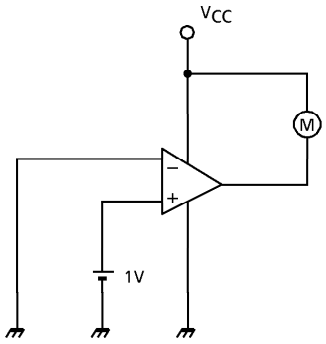
(1) I_{CC}



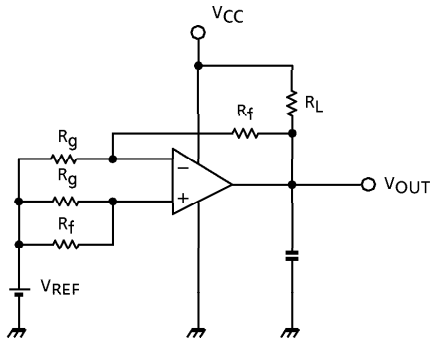
(2) I_I, I_{IO}



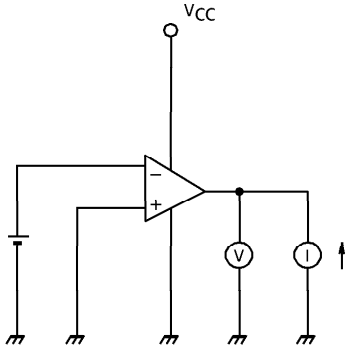
(3) I_{LEAK}



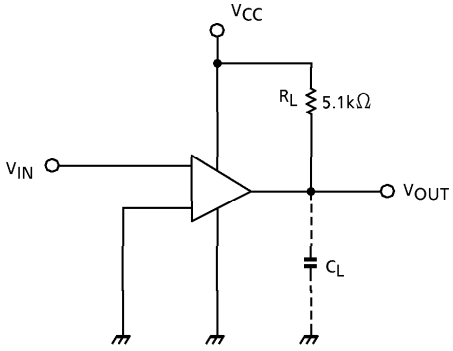
(4) V_{IO}, CMV_{IN}



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

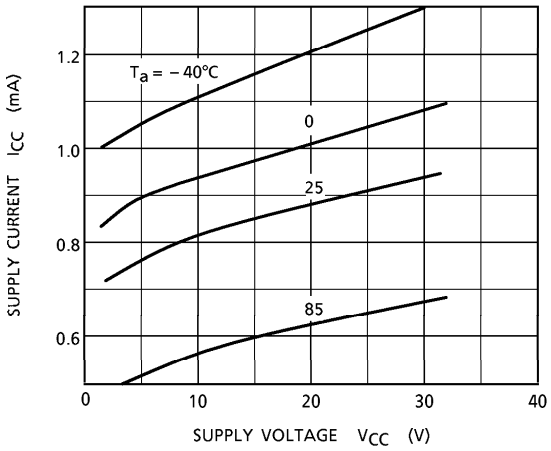


(6) t_{rsp}

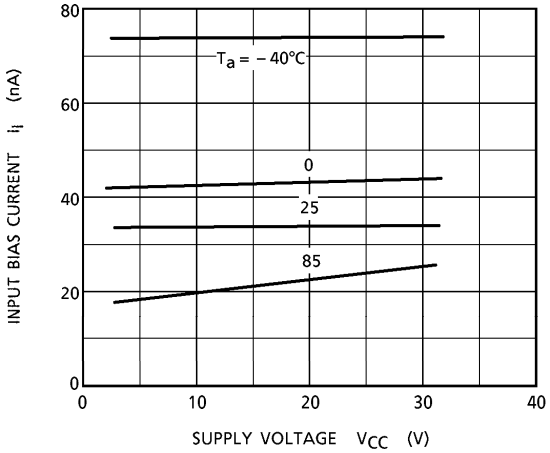


CHARACTERISTICS

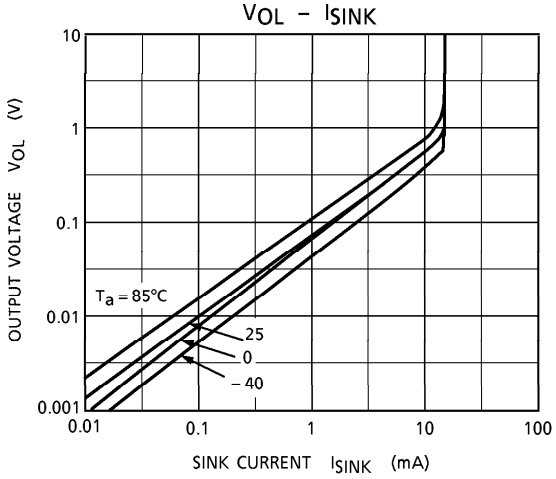
V_{CC} – I_{CC}



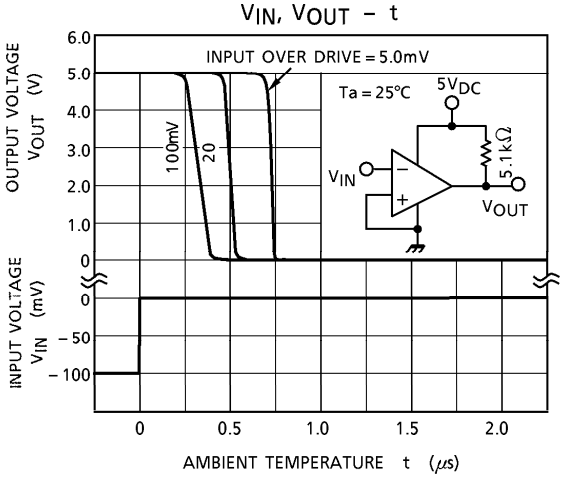
V_{CC} – I_I



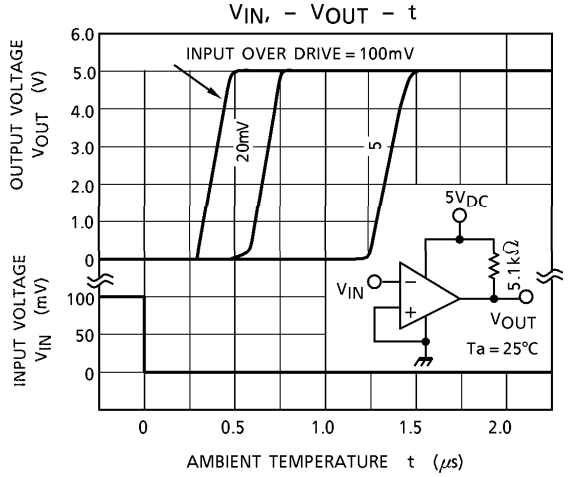
V_{OL} – I_{SINK}



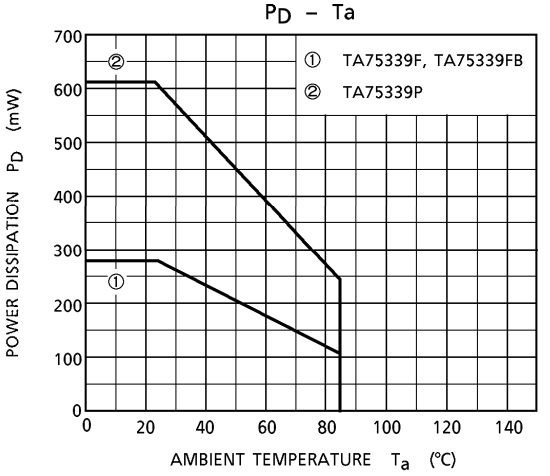
V_{IN}, V_{OUT} – t



V_{IN}, – V_{OUT} – t

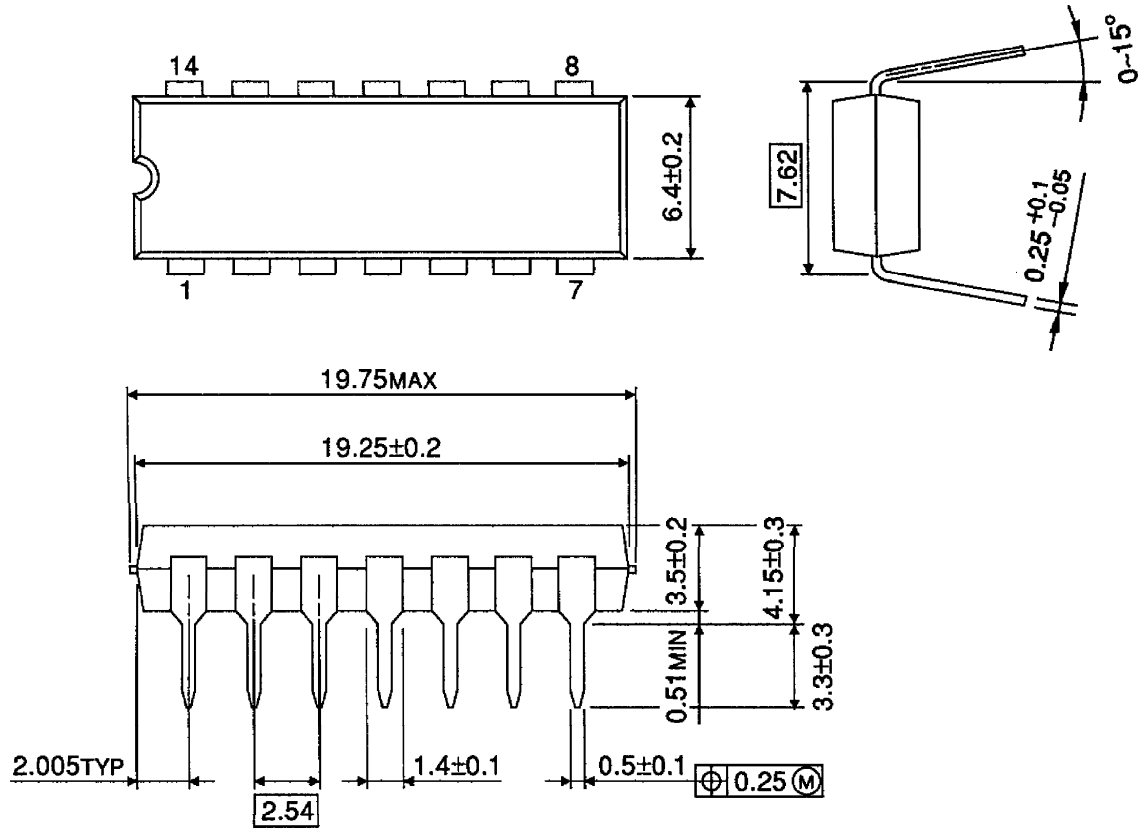


P_D – Ta



OUTLINE DRAWING

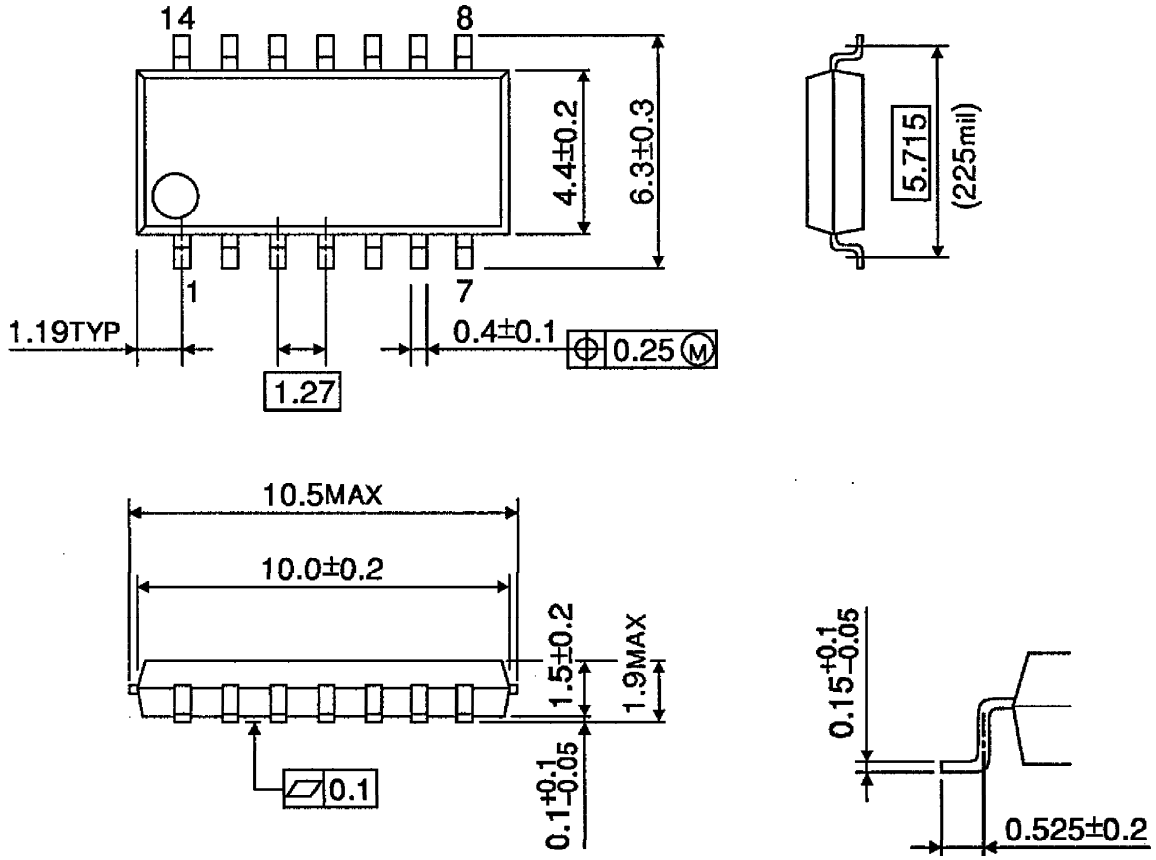
DIP14-P-300-2.54 Unit : mm



Weight : 1.0g (Typ.)

OUTLINE DRAWING

SOP14-P-225-1.27 Unit : mm

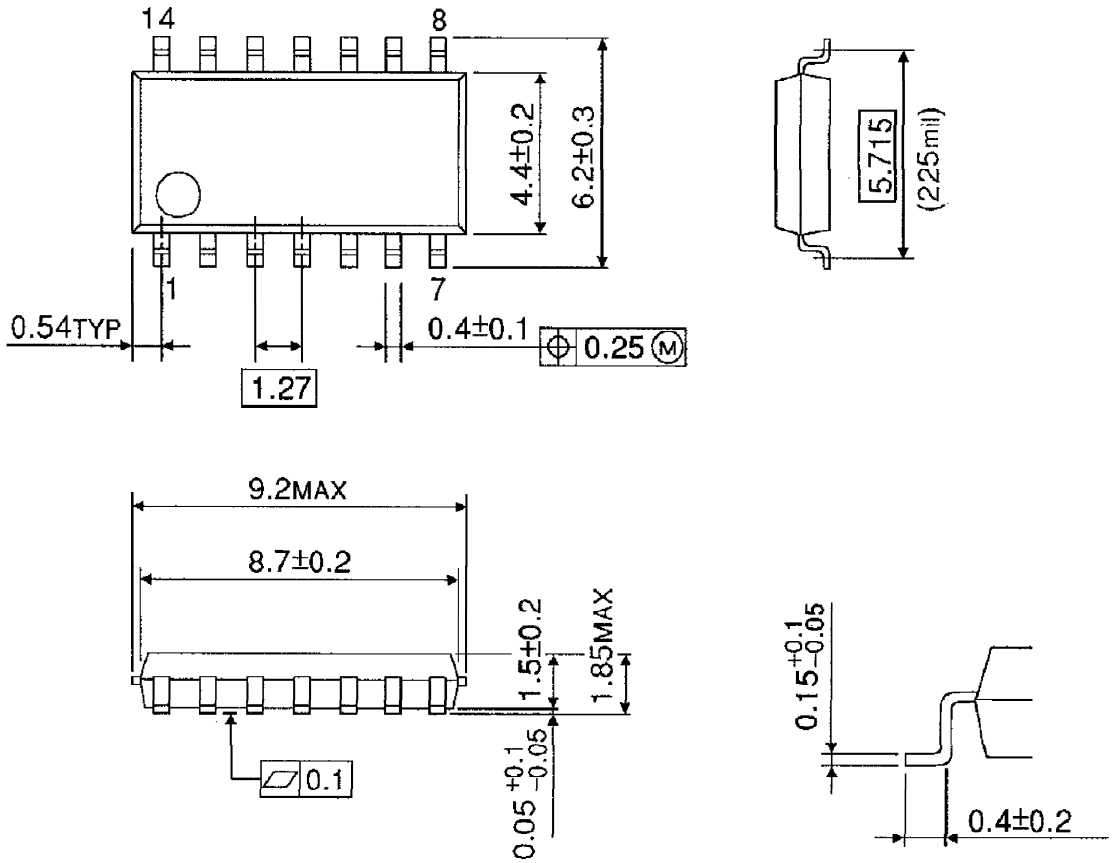


Weight : 0.2g (Typ.)

OUTLINE DRAWING

SOP14-P-225-1.27B

Unit : mm



Weight : 0.2g (Typ.)