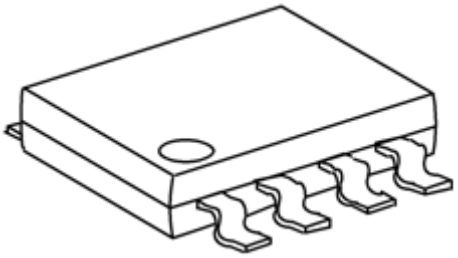
PC POWER SUPPLY SUPERVISOR

GENERAL DESCRIPTION

The FP3510 provides protection circuits, power good output (PGO), fault protection latch (FPO),and a protection detector function (PSON) control. It can minimize external components of switching power supply systems in personal computer.The Over Voltage Detector (OVD) monitors 3.3V, 5V, 12V input voltage level. The Under Voltage Detector (UVD) monitors 3.3V, 5V input voltage level. When OVD or UVD detect the fault voltage level,the FPO is latched HIGH and PGO go low. The latch can be reset by PSON goo HIGH. There is 2.4 ms delay time for PSON turn off FPO. When OVD and UVD detect the right voltage level, the power good output (PGO) will be issue.

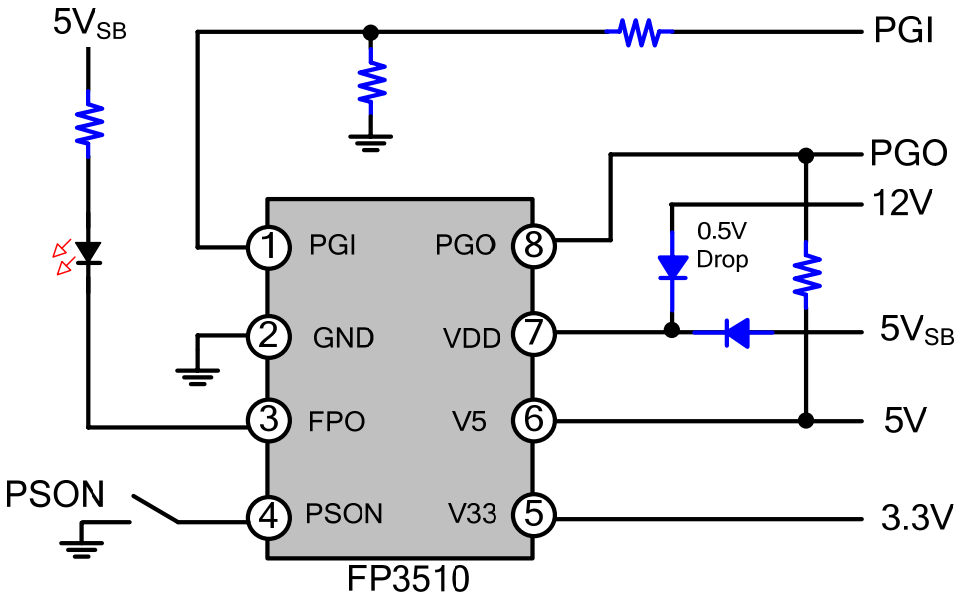
FEATURES

- The OVD monitors 3.3V, 5V, 12V input voltage level.
- The UVD monitors 3.3V, 5V input voltage level.
- Both of the PGO and FPO are Open Drain Output.
- 75 ms time delay for UVD.
- 300 ms time delay for PGO.
- 38 ms for PSON input signal De–bounce.
- 73 us for internal signal De–glitches.
- 2.4 ms time delay for PSON turn-off FPO.

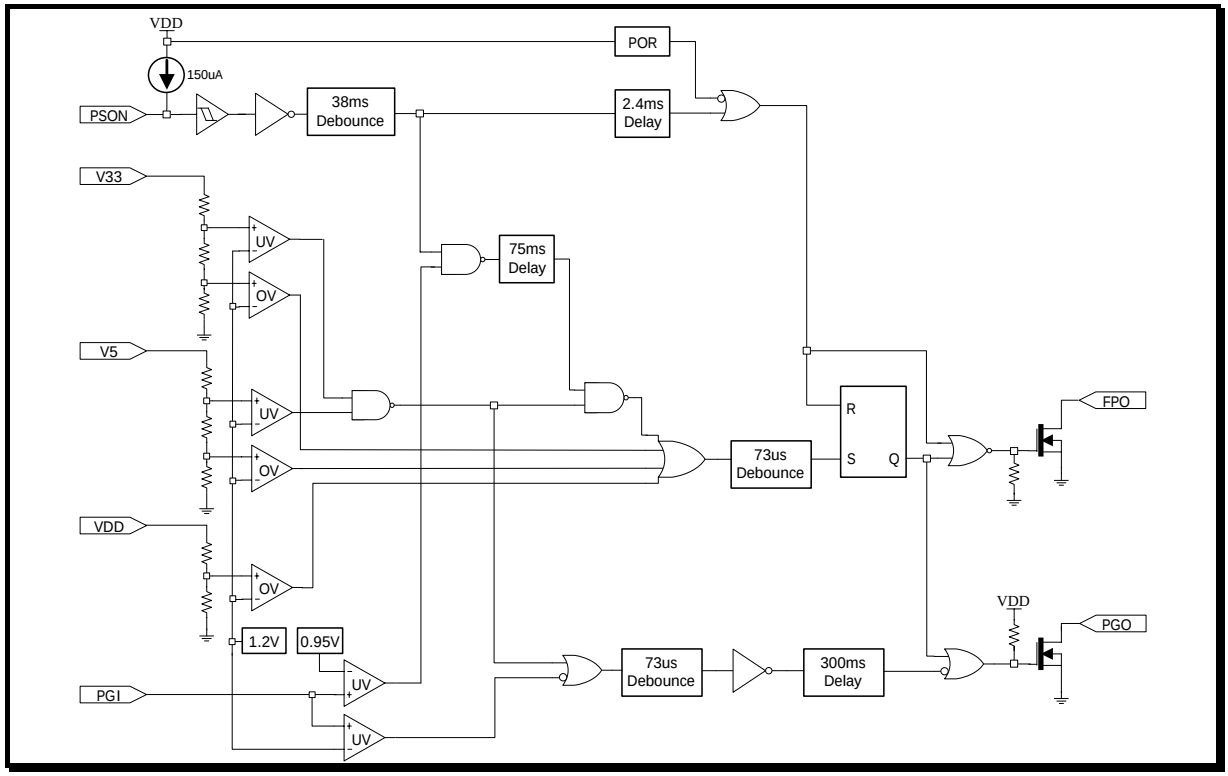


SOP8

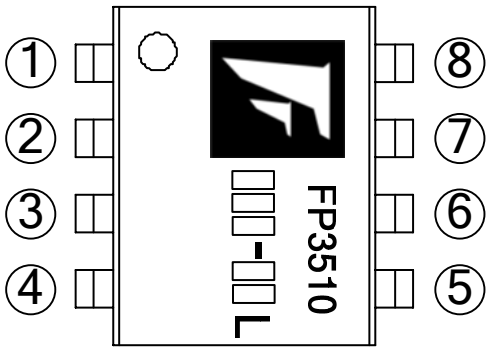
TYPICAL APPLICATION



FUNCTIONAL BLOCK DIAGRAM



MARK VIEW



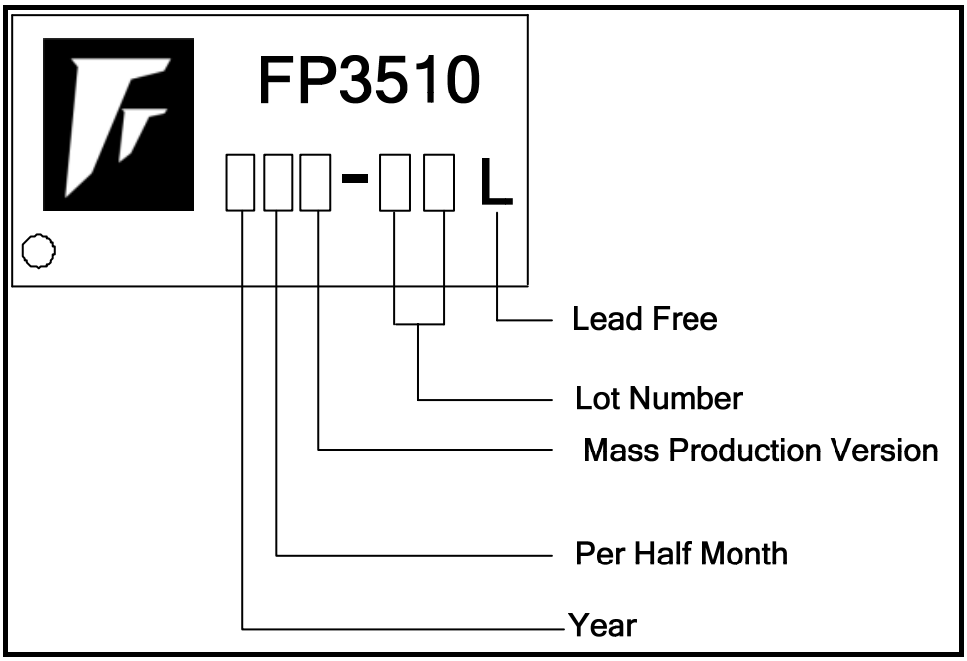
PIN DESCRIPTION

Name	No.	I/O	Description
PGI	1	I	Power good input pin
GND	2	P	Ground
FPO	3	O	Fault protection latch output pin
PSON	4	I	Protection detector function ON/OFF control input pin
V33	5	I	3.3V input pin
V5	6	I	5V input pin
VDD	7	I	Supply voltage/12V input pin
PGO	8	O	Power good output pin

ORDER INFORMATION

Part Number	Operating Temperature	Package	Description
FP3510DR-LF	-25°C ~ +85°C	SOP8	Tape & Reel
FP3510D-LF	-25°C ~ +85°C	SOP8	Tube

IC DATE CODE DISTINGUISH



FOR EXAMPLE:

January A (Front Half Month), B (Last Half Month)
February C, D
March E, F ----------And so on.

Lot Number is the last two numbers

For Example:

A3311C62
Lot Number

ABSOLUTE MAXIMUM RATINGS

Power Supply Voltage 15V

Fault Protection Output Voltage 15V

5V and 3.3V Input Voltage 7V

ON/OFF control Input voltage 7V

Power Good Input Voltage 7V

Power Good Output Voltage 7V

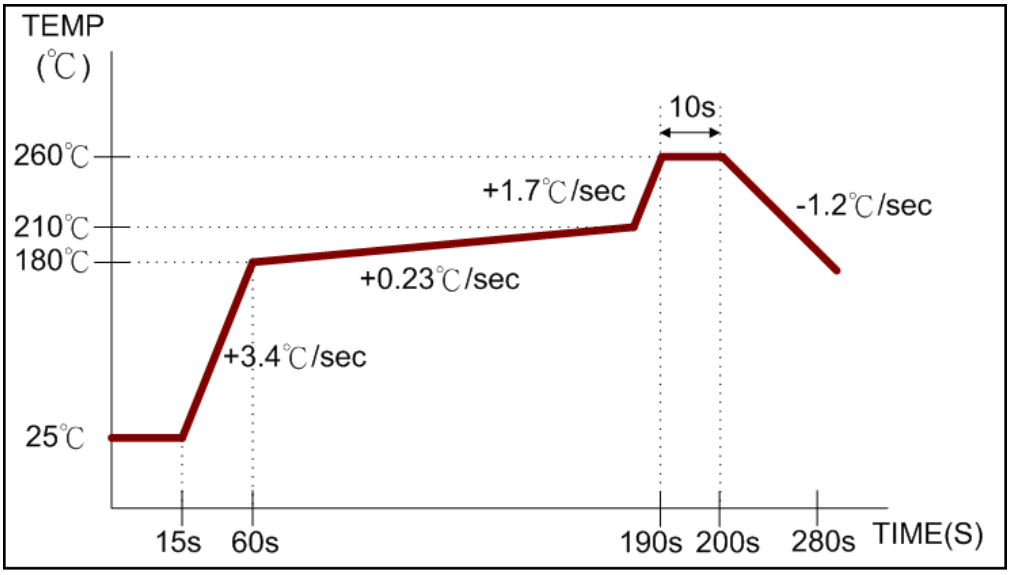
Power Dissipation (SOP8, Ta=25℃) 600mW

Operation Junction Temperature ..... +150℃

Storage Temperature Range ..... –55℃~150℃

Operation Ambient Temperature Range ..... –25℃~+85℃

SOP8 Lead Temperature (soldering, 10 sec) ..... +260℃



IR Re-flow Temperature vs. Second Curve

DC ELECTRICAL CHARACTERISTICS(VDD=5V，T_a= -25℃~+85℃, unless otherwise noted)

OVD and UVD

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Over Voltage Threshold	V_{33}		3.7	3.9	4.1	V
	V_5		5.7	6.1	6.5	V
	$V_{12}(V_{DD})$		12.8	13.4	13.9	V
Under Voltage Threshold	V_{33}		2.55	2.69	2.83	V
	V_5		4.1	4.3	4.47	V

FPO and PGO

FPO Low Level Output Voltage	$V_{OL(FPO)}$	10mA		0.3		V
		30mA		0.7		
FPO Leakage Current	$I_{LKG(FPO)}$	FPO=5V		5		uA
PGO Low Level Output Voltage	$V_{OL(PGO)}$	10mA		0.4		V
PGO Leakage Current	$I_{LKG(PGO)}$	PGO=5V		5		uA

PSON and PGI

PGI Input Threshold Voltage	V_{PGI}		1.16	1.20	1.24	V
PSON Input Pull-up Current	I_I	PSON=0V		150		uA
PSON High-Level Input Voltage	V_{IH}		2.0			V
PSON Low-Level Input Voltage	V_{IL}				0.8	V

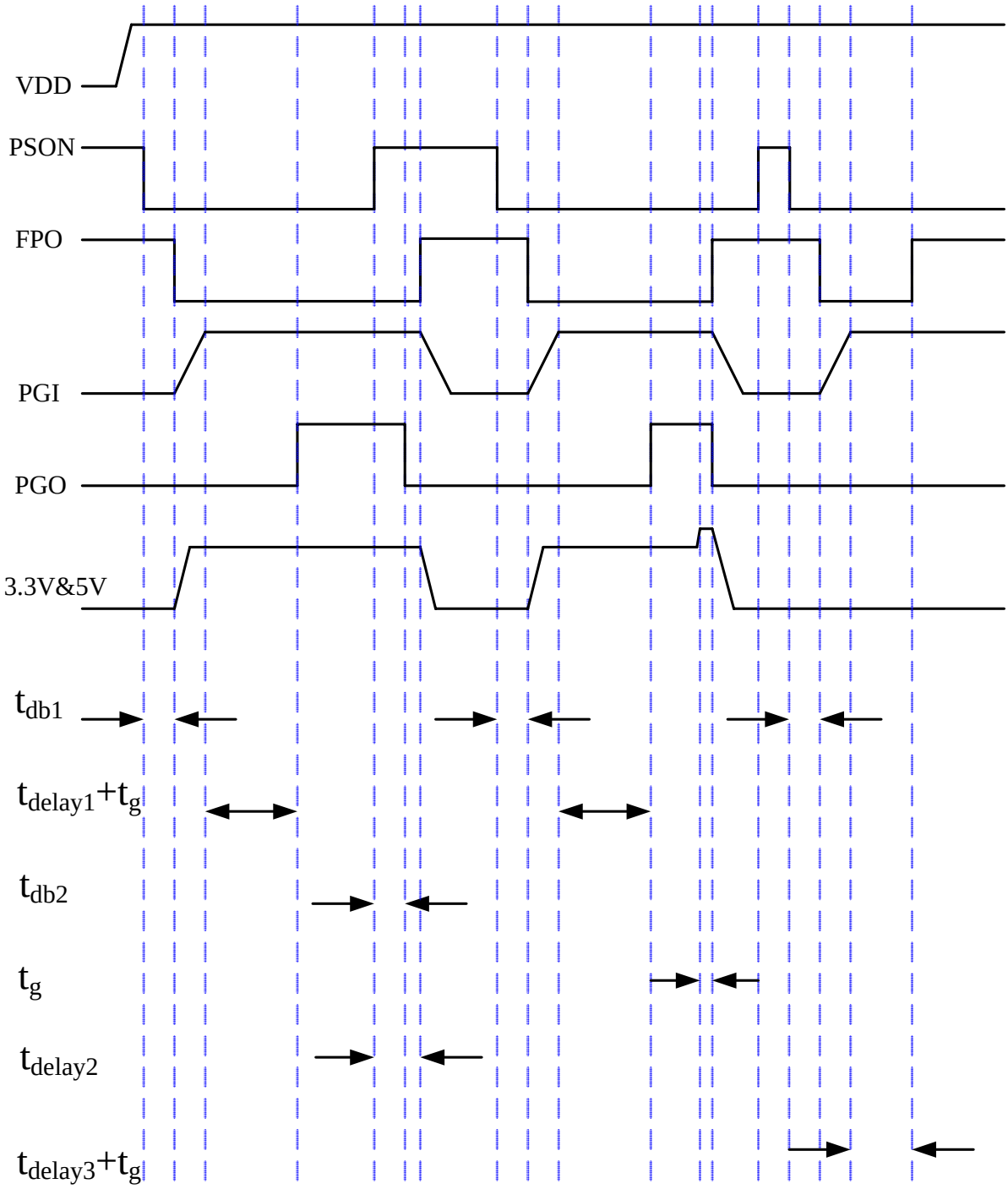
TOTAL DEVICE

Supply Current	I_{DD}	PSON=5V		0.4	1	mA
Low Voltage	V_{LOW}			3		V

SWITCHING CHARACTERISTICS

De-bounce time	tdb1		32	38	61	ms
Delay Time	tdelay1		200	300	490	ms
De-bounce Time	tdb2		32	38	61	ms
De-glitch Time	tg		63	73	120	us
PSON to FPO Delay Time	tdelay2		t_{db2}+2.0	t_{db2}+2.4	t_{db2}+3.8	ms
Internal UVD Delay Time	tdelay3	FPO go low & every time PGI>1.2V	65	75	122	ms

TIME DIAGRAM



FUNCTION TABLE

PGI	PSON	UV	OV	FPO	PGO
<0.95V	L	no	no	L	L
<0.95V	L	no	yes	H	L
<0.95V	L	yes	no	L	L
0.95V<PGI<1.15V	L	no	no	L	L
0.95V<PGI<1.15V	L	no	yes	H	L
0.95V<PGI<1.15V	L	yes	no	H	L
PGI>1.15V	L	no	no	L	H
PGI>1.15V	L	no	yes	H	L
PGI>1.15V	L	yes	no	H	L
x	H	x	x	H	L

x = don't care

FPO=L means: fault IS NOT latched

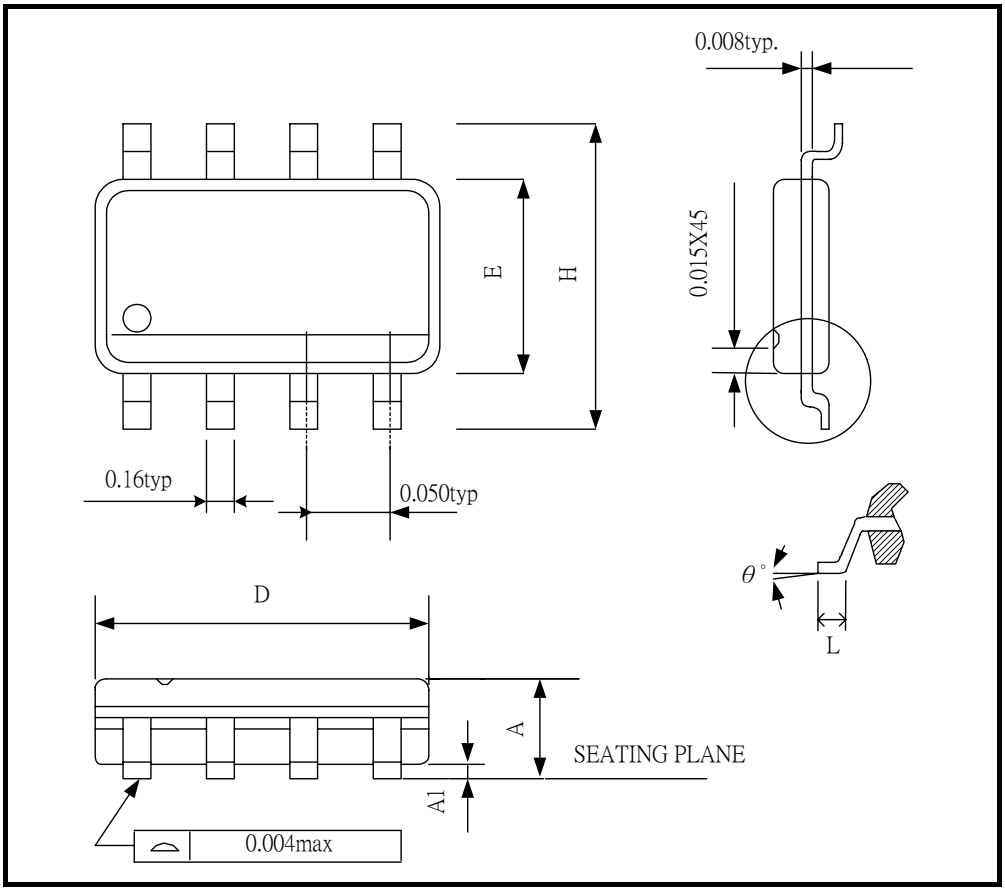
FPO=H means: fault IS latched

PGO=H means: fault

PGO=H means: fault

PACKAGE OUTLINE

SOP8



SYMBOLS	MIN	MAX
A	0.053	0.069
A1	0.004	0.010
D	0.189	0.196
E	0.150	0.157
H	0.228	0.244
L	0.016	0.050
θ°	0	8

UNIT:INCH

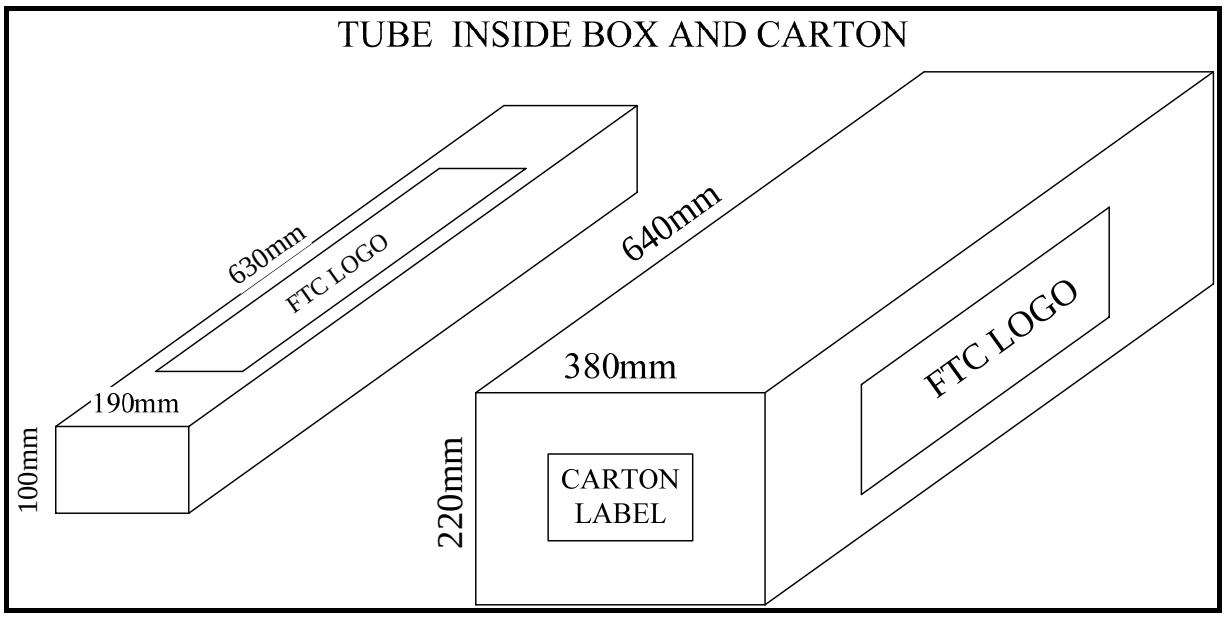
NOTE:

1. JEDEC OUTLINE:MS-012 AA。
2. DIMENSIONS “D” DOES NOT INCLUDE MOLD FLASH,PROTRUSIONS OR GATE BURRS.MOLD FLASH,PROTRUSIONS AND GATE BURRS SHALL NOT EXCEED .15mm (.0.06in) PER SIDE。
3. DIMENSIONS “E” DOES NOT INCLUDE INTER-LEAD FLASH,OR PROTRUSIONS INTER-LEAD FLASH AND PROTRUSIONS SHALL NOT EXCEED .25mm (.0.10in) PER SIDE。

PACKING SPECIFICATIONS

BOX & CARTON DIMENSION

SOP8



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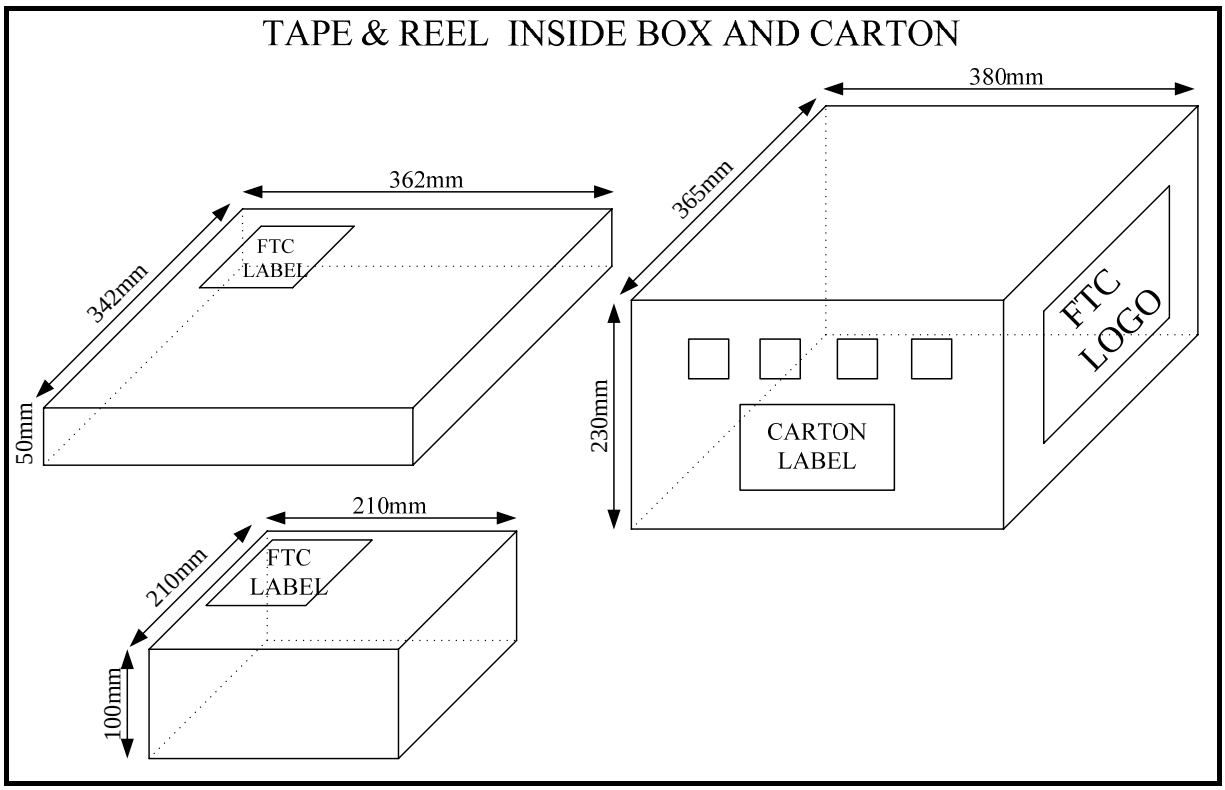


PACKING QUANTITY SPECIFICATIONS

SOP8
2500 EA / REEL
1 REELS / INSIDE BOX
4 INSIDE BOXES / CARTON

LABEL SPECIFICATIONS

TAPPING & REEL

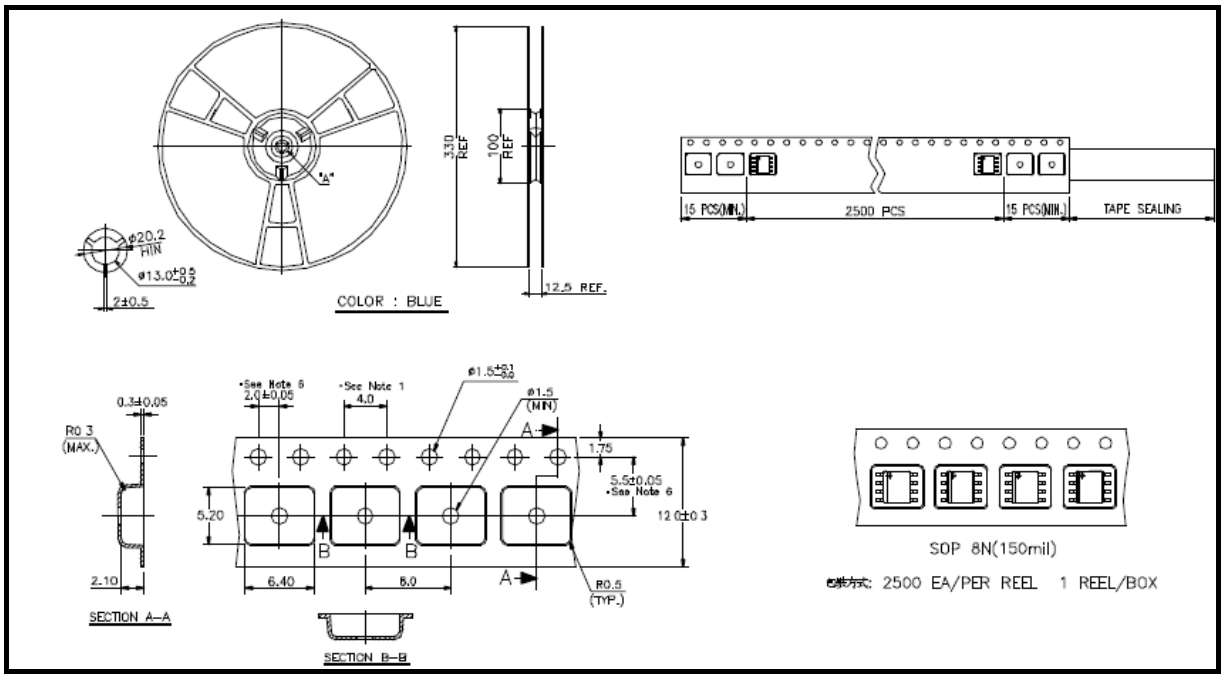
Feeling Technology Corp
Product:FP3510DR-LF
Lot NO: A3311CXX-L
D/C: 6Xx-XXL
Q`ty: 2500
無鉛
Lead Free

CARTON

Feeling Technology Corp
Product Type: FP3510DR-LF
Lot No: A3311CXX-L
Date Code: 4Xx-XXL
Package Type:SOP8
Marking Type:Laser
Total Q`ty: 10,000
無鉛
Lead Free

CARRIER TAPE AND REEL DIMENSIONS

SOP8



Note:

1. 10 SPROCKET HOLE PITCH CUMULATIVE TOLERANCE 0.2mm。
2. COMBER NOT TO EXCEED 1mm IN 100mm。
3. MATERIAL:ANTI-STATIC BLOCK ADVANTEK POLYSTYRENE。
4. A_0 AND B_0 MEASURED ON A PLANE 0.3mm ABOVE THE BOTTOM OF THE POCKET。
5. K_0 MEASURED FROM A PLANE AN THE INSIDE BOTTOM OF THE POCKET TO THE TOP SURFACE OF THE CARRIER。
6. POCKET POSITION RELATIVE TO SPROCKET HOLE MEASURED AS TRUE POSITION OF POCKET，NOT POCKET HOLE。