



Opto Plus LED Corp. Through Hole Type LED Display OPD-M357A0F1

● EDIT HISTORY

Version A: APR. 16, 2024

Preliminary Spec.

Confidential Document



Opto Plus LED Corp. Through Hole Type LED Display OPD-M357A0F1

● FEATURES

- 1.54 inch (39.10 mm) Matrix Height.
- Stackable vertically and horizontally.
- 5x7 array with X-Y select.
- Wide viewing angle.
- Black face, White dot.
- Case mold type.
- RoHS compliant, Pb Free.

● DESCRIPTION

The OPD-M357A0F1 -BW is a 1.54 inch (39.10 mm) height 5x7 dot matrix display. This device utilizes Full-Color 0404 LED. The display has Black face, White dot.

● DEVICE

	PART NO.	DESCRIPTION
	OPD-M357A0F1A -GW	Common Anode Row Gray face White segment
	OPD-M357A0F1A -BW	Common Anode Row Black face White segment
	OPD-M357A0F1C -GW	Common Cathode Row Gray face White segment
	OPD-M357A0F1C -BW	Common Cathode Row Black face White segment

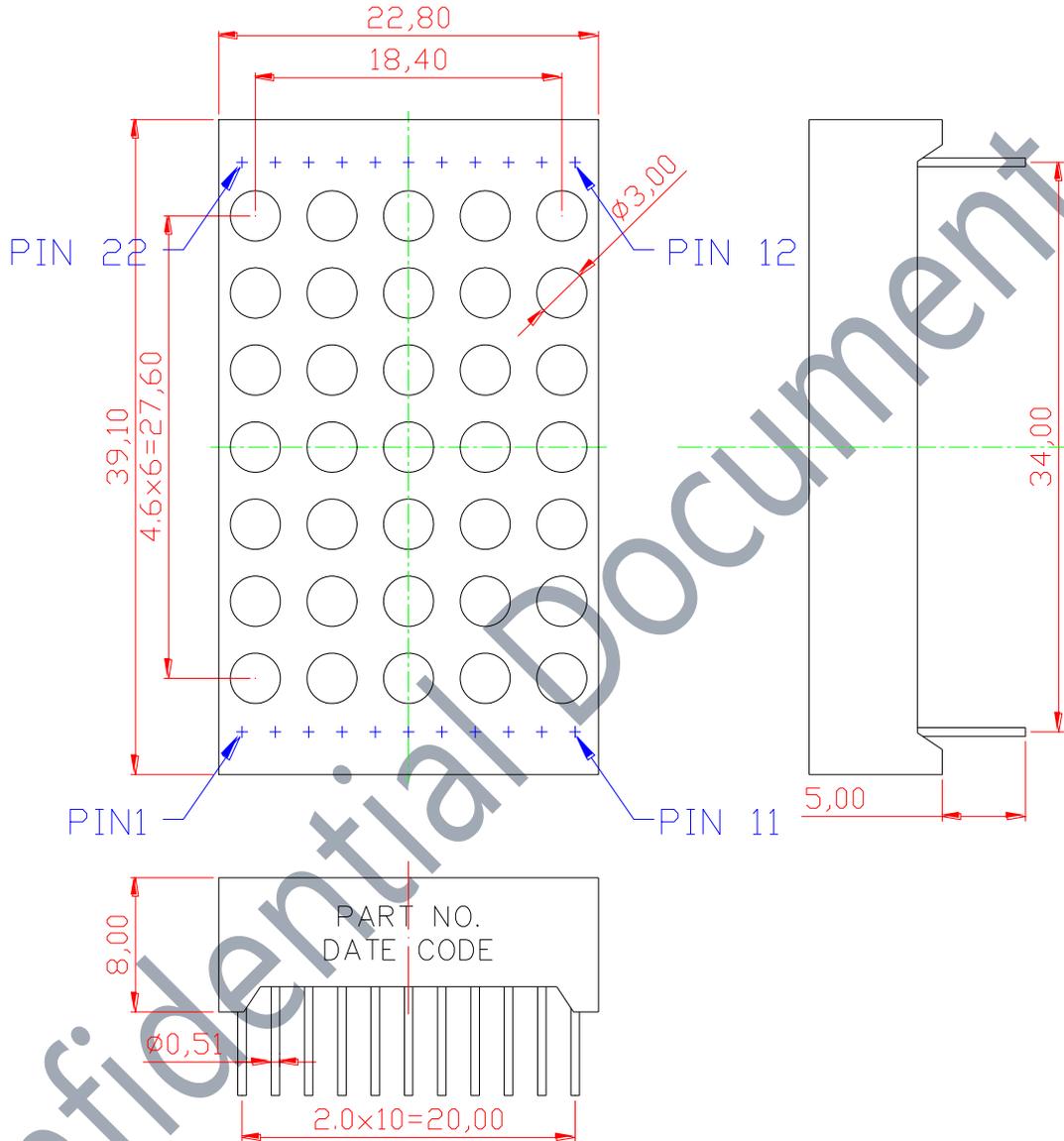
RoHS Compliance



Pb Free.



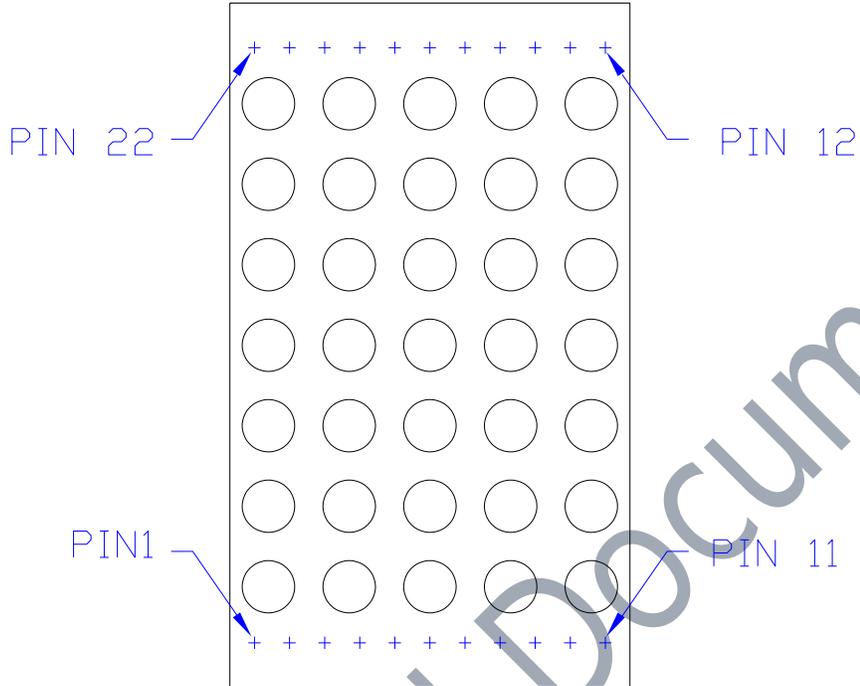
● MECHANICAL DIMENSIONS



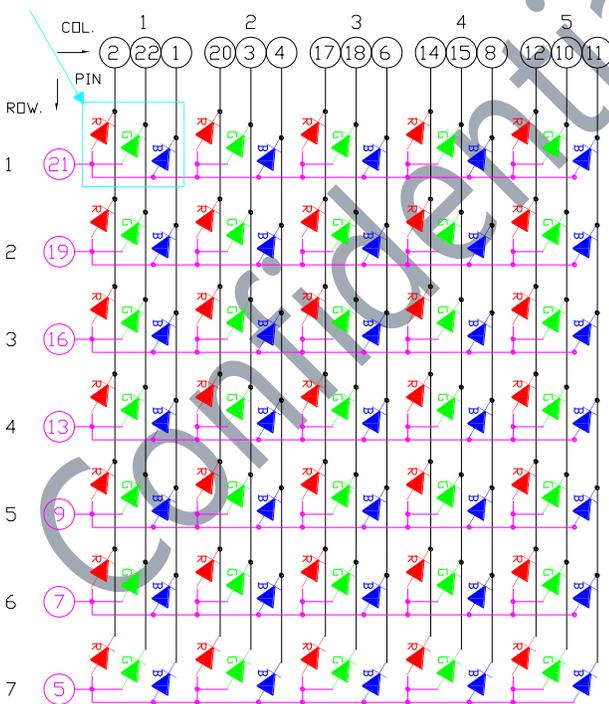
NOTE:

1. Dimension in millimeters (inches),
And tolerances are $\pm 0.25\text{mm}$ (.01") specified.
2. Bending < Length : 2%

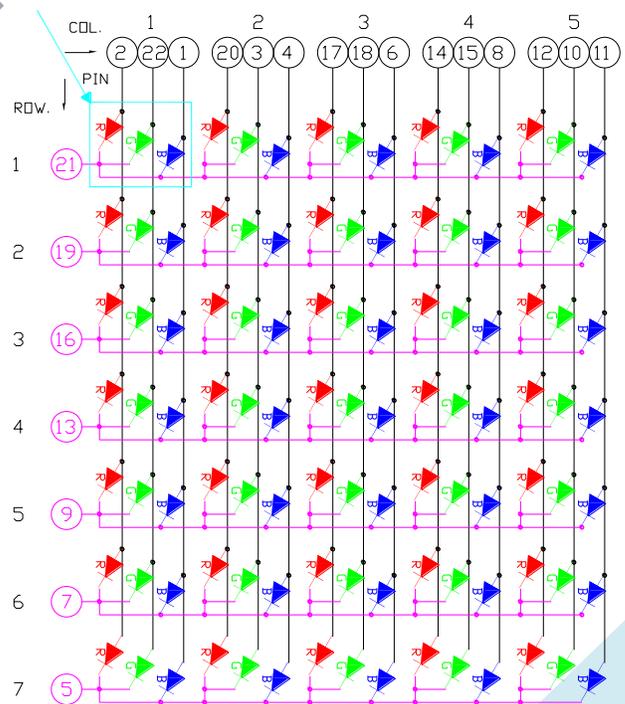
● TYPICAL INTERNAL EQUIVALENT CIRCUIT



ANODE ROW, CATHODE COLUMN,
Full-Color 0404 LED 35 EA

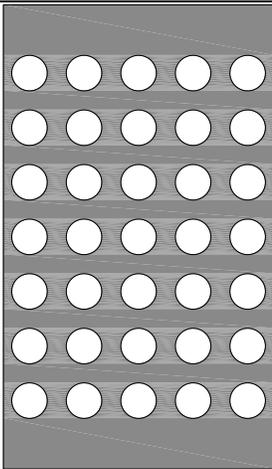
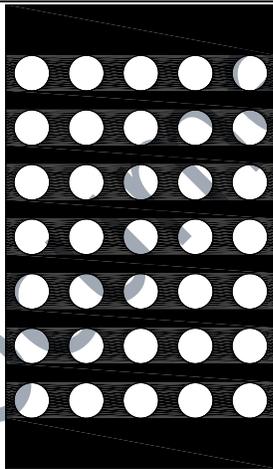


CATHODE ROW, ANODE COLUMN,
Full-Color 0404 LED 35 EA



● PRODUCT APPEARANCE

The most common reflector color and segment color are show in below diagram.

-GW	-BW
	
※ REFLECTOR COLOR: Gray ※ SEGMENT COLOR: White	※ REFLECTOR COLOR: Black ※ SEGMENT COLOR: White

Opto Plus can customize reflector and segment colors by customer's request. If you have these request please visit www.opledtw.com or contact sales@opledtw.com for more **Standard Product Customization** information.

Part NO. related to reflector and segment colors show as table below.

PART NO.	DESCRIPTION
OPD-M357A0F1A -GW	Common Anode Row Gray face White segment
OPD-M357A0F1A -BW	Common Anode Row Black face White segment
OPD-M357A0F1C -GW	Common Cathode Row Gray face White segment
OPD-M357A0F1C -BW	Common Cathode Row Black face White segment



Opto Plus LED Corp. Through Hole Type LED Display OPD-M357A0F1

● F1: FULL COLOR

ABSOLUTE MAXIMUM RATING AT Ta=25°C

Parameter	Symbol	Maximum Rating	Unit
Power dissipation	P _{AD}	46	mW
Continuous forward current	I _{AF}	5	mA
Peak current (duty cycle 1/10, 1kHz)	I _{PF}	20	mA
Reverse voltage	V _R	5	V
Operating temperature	T _{OPR}	-40 to +85	°C
Storage temperature	T _{STG}	-40 to +85	°C

ELECTRICAL - OPTICAL CHARACTERISTICS AT Ta=25°C

Characteristic	Symbol	Condition	Min.	Type.	Max.	Unit
Forward Voltage (Red)(PER SMD)	V _F	I _F =5mA	1.5	1.9	2.7	V
Forward Voltage (Green) (PER SMD)	V _F	I _F =5mA	2.1	2.6	3.3	V
Forward Voltage (Blue) (PER SMD)	V _F	I _F =5mA	2.3	2.7	3.5	V
Reverse Current (PER SMD)	I _R	V _R =5V	-	-	10	μA
Dominant Wavelength (Red)	λ _D	I _F =5mA	-	622	-	nm
Dominant Wavelength (Green)	λ _D	I _F =5mA	-	525	-	nm
Dominant Wavelength (Blue)	λ _D	I _F =5mA	-	466	-	nm
Luminous Intensity(Red) (PER SMD)	I _V	I _F =5mA	-	180	-	mcd



Opto Plus LED Corp. Through Hole Type LED Display OPD-M357A0F1

Luminous Intensity(Green) (PER SMD)	I_v	$I_F=5mA$	-	450	-	mcd
Luminous Intensity(Blue) (PER SMD)	I_v	$I_F=5mA$	-	120	-	mcd
Luminous Intensity(Red)	I_v	$I_F=5mA$	-	60	-	mcd
Luminous Intensity(Green)	I_v	$I_F=5mA$	-	150	-	mcd
Luminous Intensity(Blue)	I_v	$I_F=5mA$	-	30	-	mcd
Spectrum Radiation Bandwidth (Red) (PER SMD)	$\Delta\lambda$	$I_F=5mA$	-	13	-	nm
Spectrum Radiation Bandwidth (Green) (PER SMD)	$\Delta\lambda$	$I_F=5mA$	-	25	-	nm
Spectrum Radiation Bandwidth (Blue) (PER SMD)	$\Delta\lambda$	$I_F=5mA$	-	16	-	nm

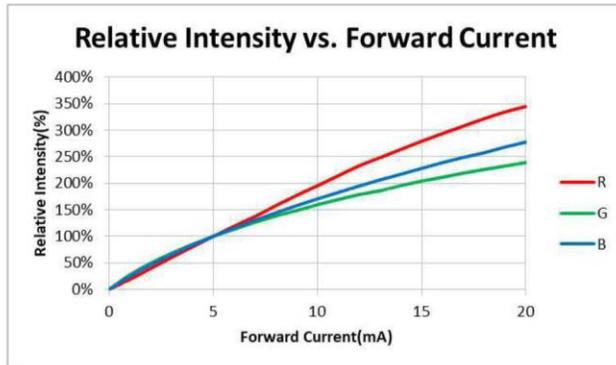
Confidential Document

Opto Plus LED Corp.

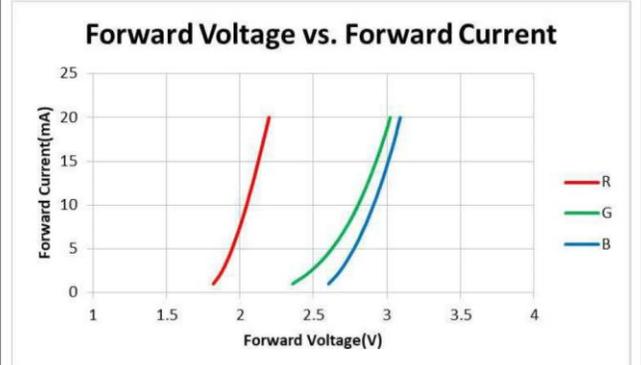
Through Hole Type LED Display

OPD-M357A0F1

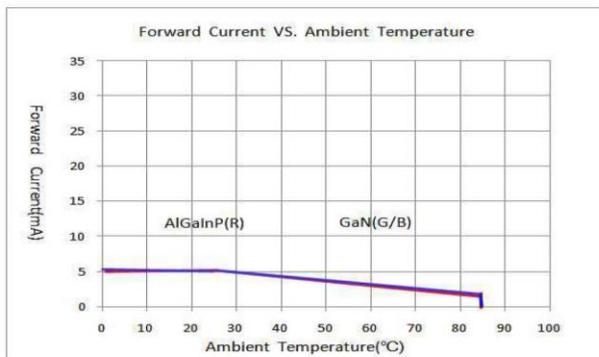
Relative Intensity vs. Forward Current
(相對光強度與順向電流變化圖)



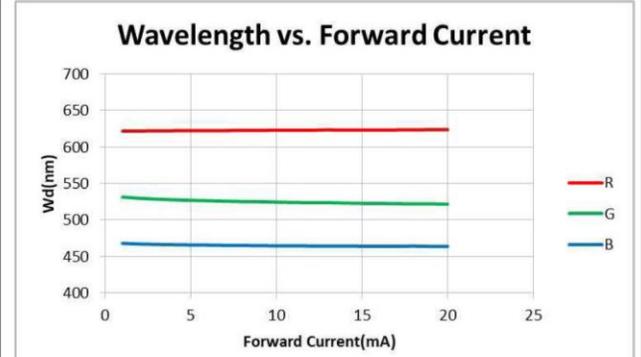
Forward Voltage vs. Forward Current
(順向偏壓與順向電流對應圖)



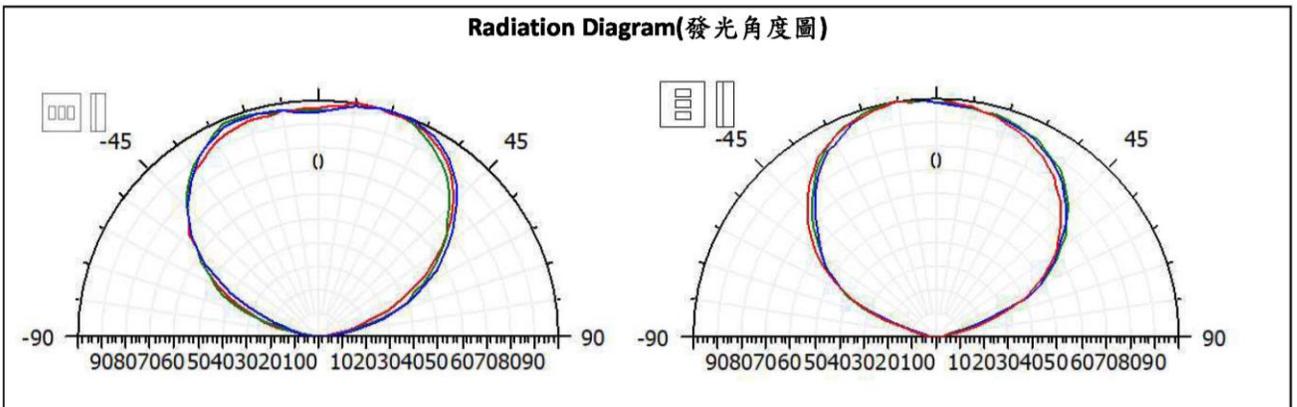
Forward Current vs. Ambient Temperature
(順向電流與環境溫度)



Wavelength vs. Forward Current
(波長與順向電流變化圖)

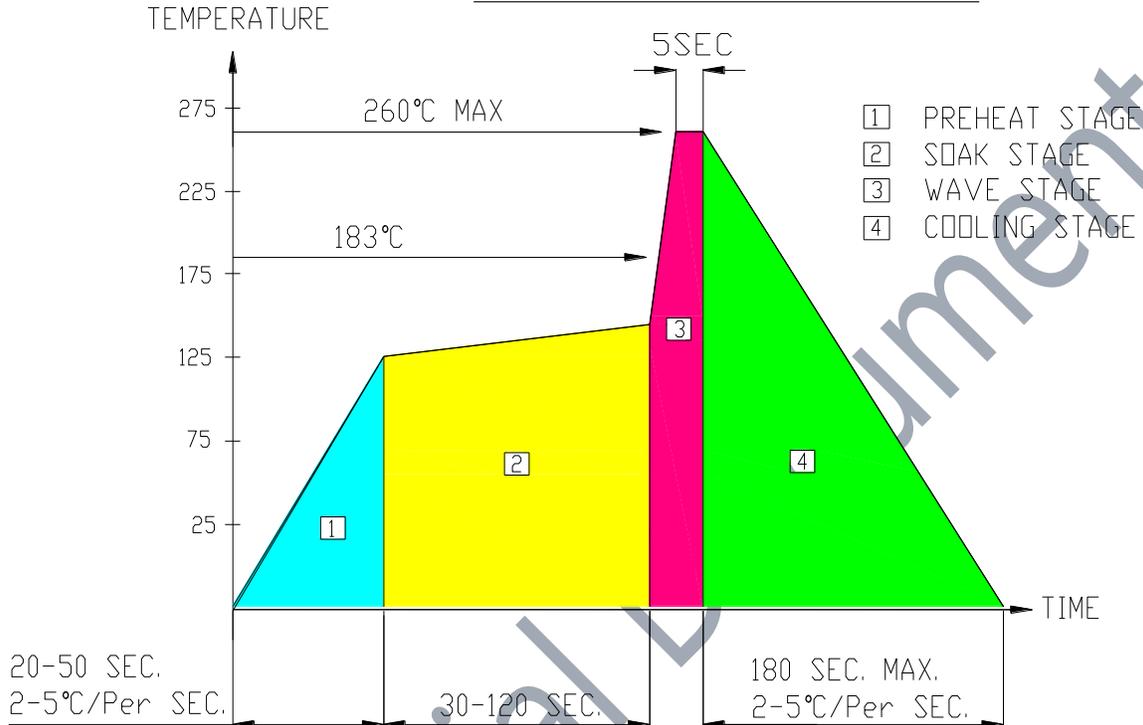


Radiation Diagram (發光角度圖)



● RECOMMEND SOLDERING PROFILE

WAVE SOLDER PROFILE



● Note:

- Recommend pre-heat temperature of 105°C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260°C
- Peak wave soldering temperature between 245°C ~ 225°C for 3 sec (5 sec max)
- No more than one wave soldering pass

● SOLDERING IRON

Basic spec is ≤ 4 sec when 260°C. If temperature is higher, time should be shorter (+10°C→1 sec). Power dissipation of Iron should be smaller than 15W, and temperature should be controllable. Surface temperature of the device should be under 230°C.

● REWORK

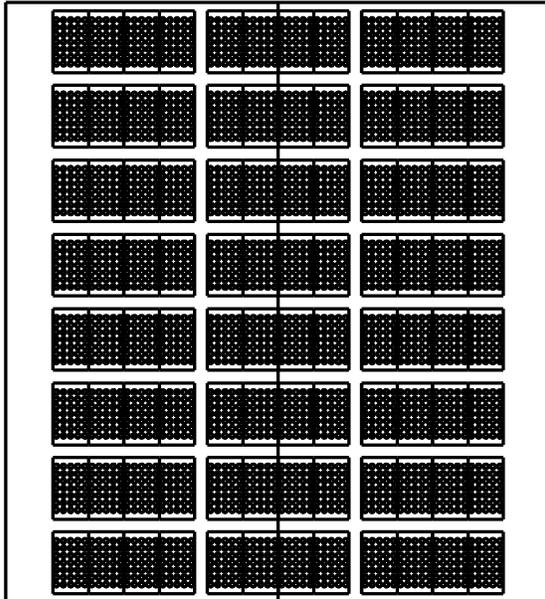
Customer must finish rework within ≤ 3 sec under 350°C.
The head of soldering iron cannot touch copper foil.



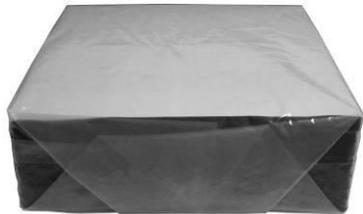
Opto Plus LED Corp. Through Hole Type LED Display OPD-M357A0F1

● PACKAGE DIMENSIONS

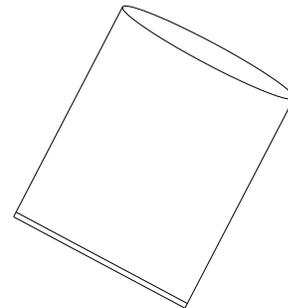
96 PCS / 1 ESD Polyform (4 X 3 X 8 PCS)



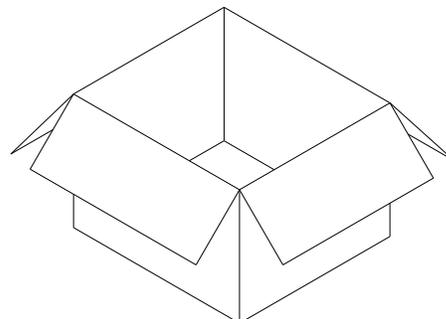
6 ESD Polyform / 576 PCS 1 ESD BAG



1152 PCS / 2 ESD BAG / 1 Outer Carton



BAG SIZE : 450X410X760



OUTER BOX SIZE : 430 x 390 x 300 mm