

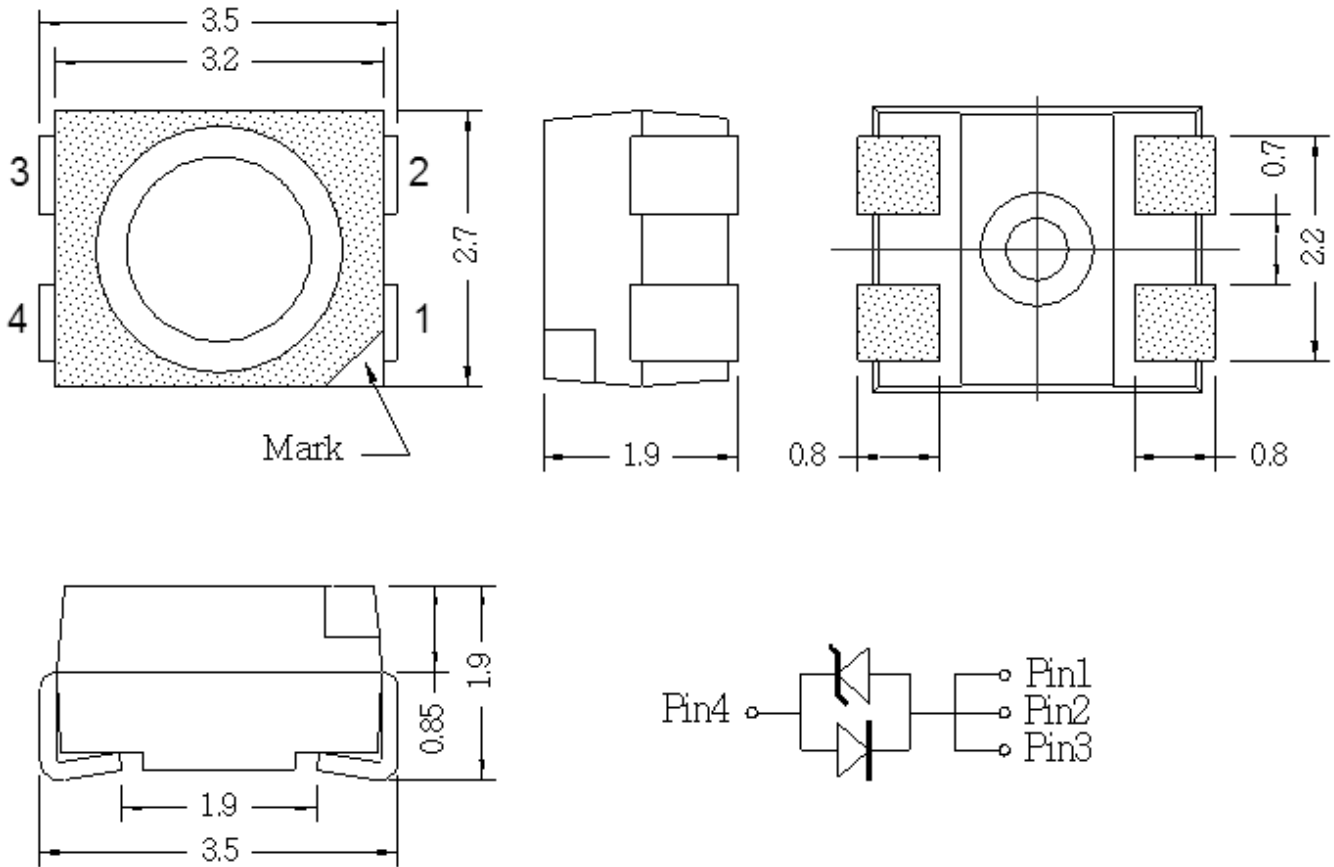


# American Opto Plus LED Corp.

## SMP-MPGC-ZS

3.5 x 2.7 x 1.9 Green PLCC-4 SMD LED

### PACKAGE OUTLINES



Item	Materials
Package	Heat-Resistant Polymer
Encapsulating Resin	Silicone
Electrodes	Ag Plating Copper Alloy

#### Notes:

1. All dimensions are in millimeters; tolerance is  $\pm 0.2$ mm unless otherwise noted.
2. Electrical connection between all cathodes is recommended.



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### ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

Parameter	Symbol	Ratings	Unit
DC Forward Current	$I_F$	30	mA
Peak Pulsed Forward Current	$I_{FP}$	100	mA
Reverse Voltage	$V_R$	5	V
Power Dissipation	$P_D$	108	mW
Junction Temperature	$T_J$	115	°C
Junction / Solder Point	$R_{THJS}$	600	°C/W
Junction / Ambient	$R_{THJA}$	735	°C/W
Operating Temperature	$T_{OPR}$	-30~+100	°C
Storage Temperature	$T_{STG}$	-40~+100	°C
Solder Temperature	$T_{SOL}$	260 °C for 10 sec	

### OPTICAL-ELECTRICAL CHARACTERISTICS

(Ta=25°C)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Forward Voltage	$V_F$	$I_F=20mA$	--	3.2	3.6	V
Luminous Intensity	$I_V$		1150	1400	--	mcd
Dominant Wavelength	$\lambda_d$		515	525	535	nm
Peak Wavelength	$\lambda_p$		--	515	--	nm
Spectral Half Width	$\Delta\lambda_{1/2}$		--	28	--	nm
Viewing Angle	$2\theta_{1/2}$		--	120	--	deg

Note: Measurement uncertainty of luminous intensity:  $\pm 10\%$



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### LUMINOUS INENSITY BIN TABLE

IF=20mA

Rank Name	Min (mcd)	Max (mcd)
Q	1150	1500
R	1500	1900
S	1900	2500

Tolerance for each bin limit is  $\pm 15\%$

### COLOR BIN TABLE

IF=20mA

Rank Name	Min (nm)	Max (nm)
1	515	520
2	520	525
3	525	530
4	530	535

Tolerance for each bin limit is  $\pm 1\text{nm}$

#### Notes:

1. One delivery will include several color ranks and  $I_V$  ranks of products. The quantity-ratio of different rank is decided by AOP.
2. Bin name typed on the label: IV RANK + Color Rank. For example, **BIN S2 Means IV: 1900~2500mcd and Color: 520nm~525nm.**



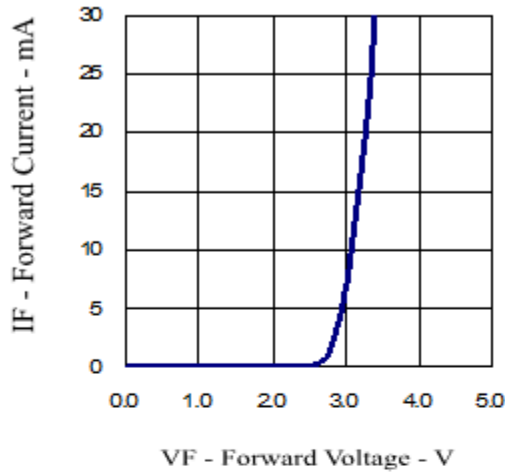
# American Opto Plus LED Corp.

## SMP-MPGC-ZS

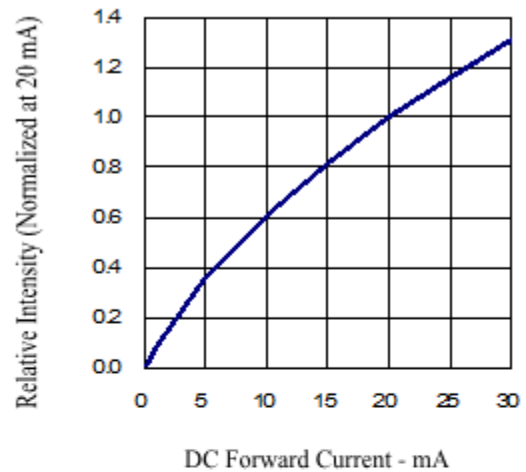
3.5 x 2.7 x 1.9 Green PLCC-4 SMD LED

### TYPICAL ELECTRICAL-OPTICAL CHARACTERISTIC CURVES

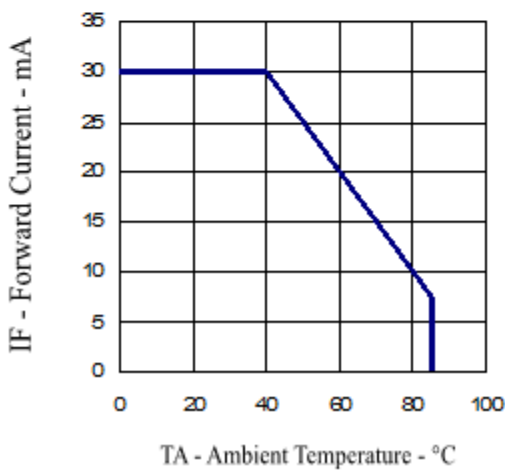
Forward Current vs. Forward Voltage



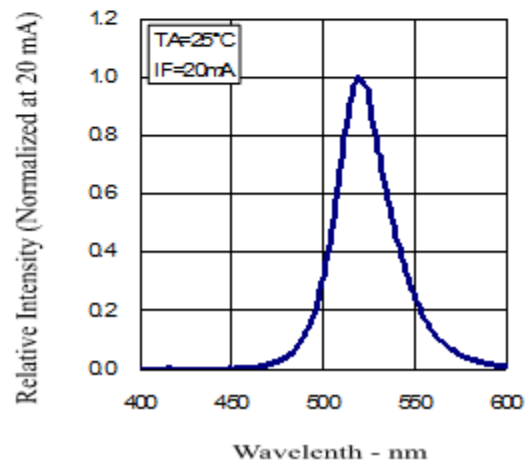
Relative Intensity vs. Forward Current



Forward Current vs. Ambient Temperature



Relative Intensity vs. Wavelength



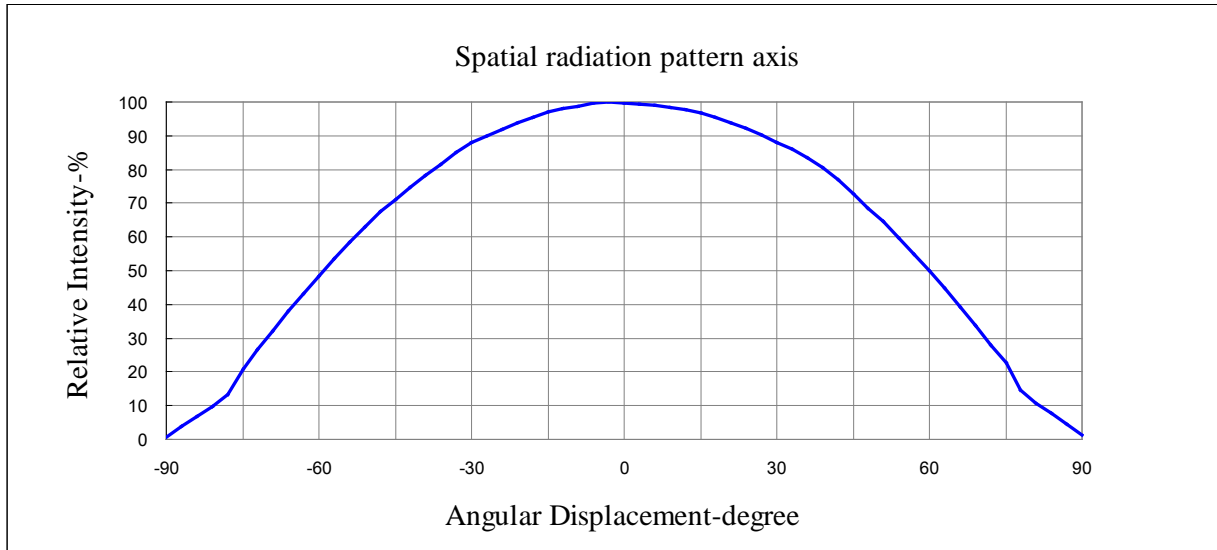


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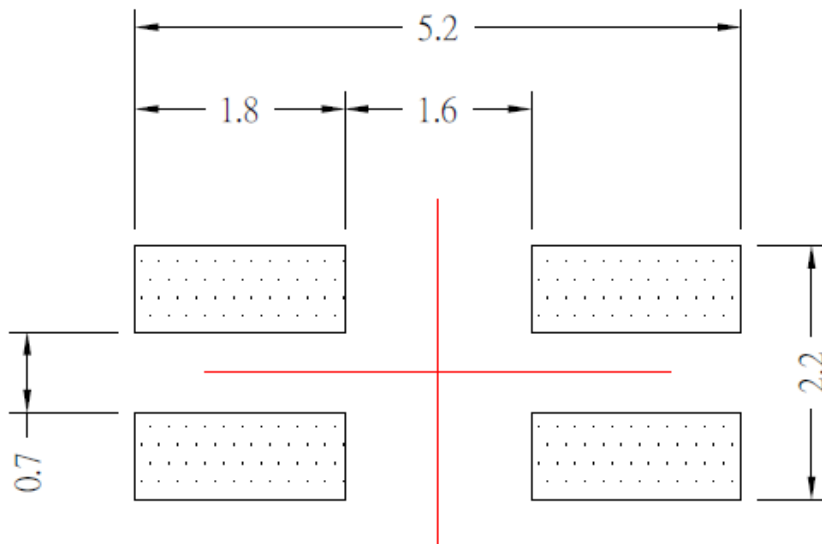
## SMP-MPGC-ZS

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### RADIATION PATTERN



### RECOMMENDED SOLDERING PAD PATTERN



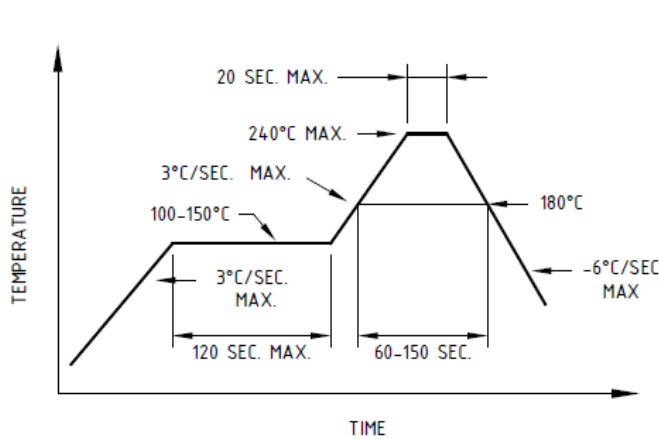


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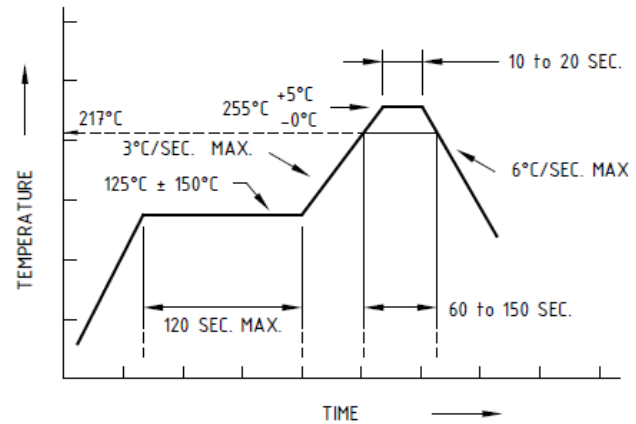
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### SOLDERING CONDITIONS



**Recommended reflow soldering profile**



**Recommended Pb-free reflow soldering profile**

- Repairing should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used. It should be confirmed beforehand whether the Characteristics of the LEDs will or will not be damaged by repairing.
- Reflow soldering should not be done more than two times.
- When soldering, do not put stress on the LEDs during heating.
- After soldering, do not warp the circuit board.

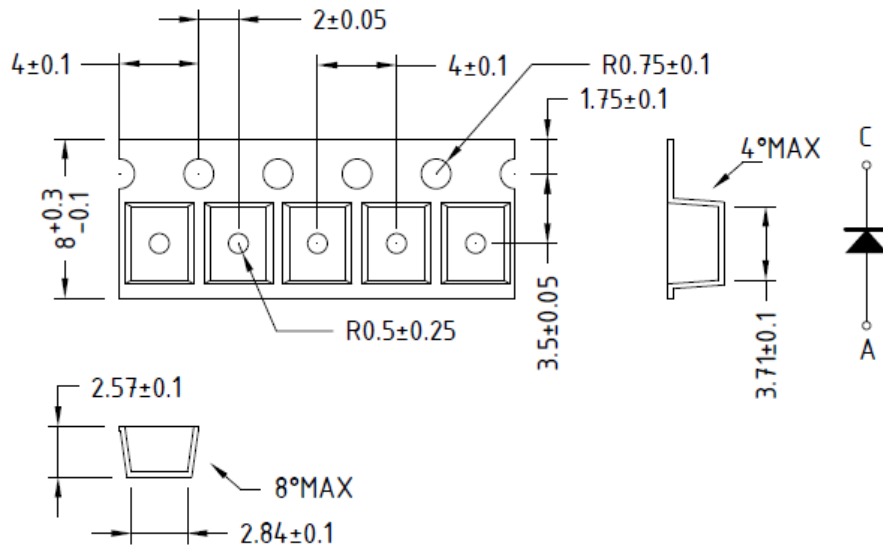


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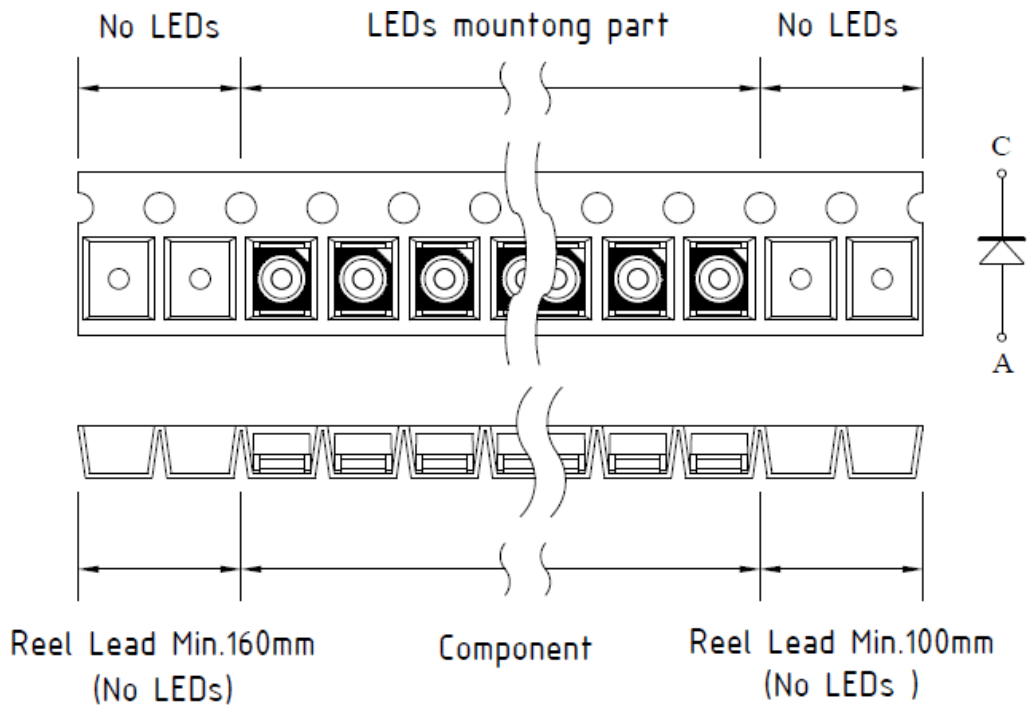
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### TAPE DIMENSION



### TAPE LEADER AND TRAILER DIMENSION



USER FEED DIRECTION 

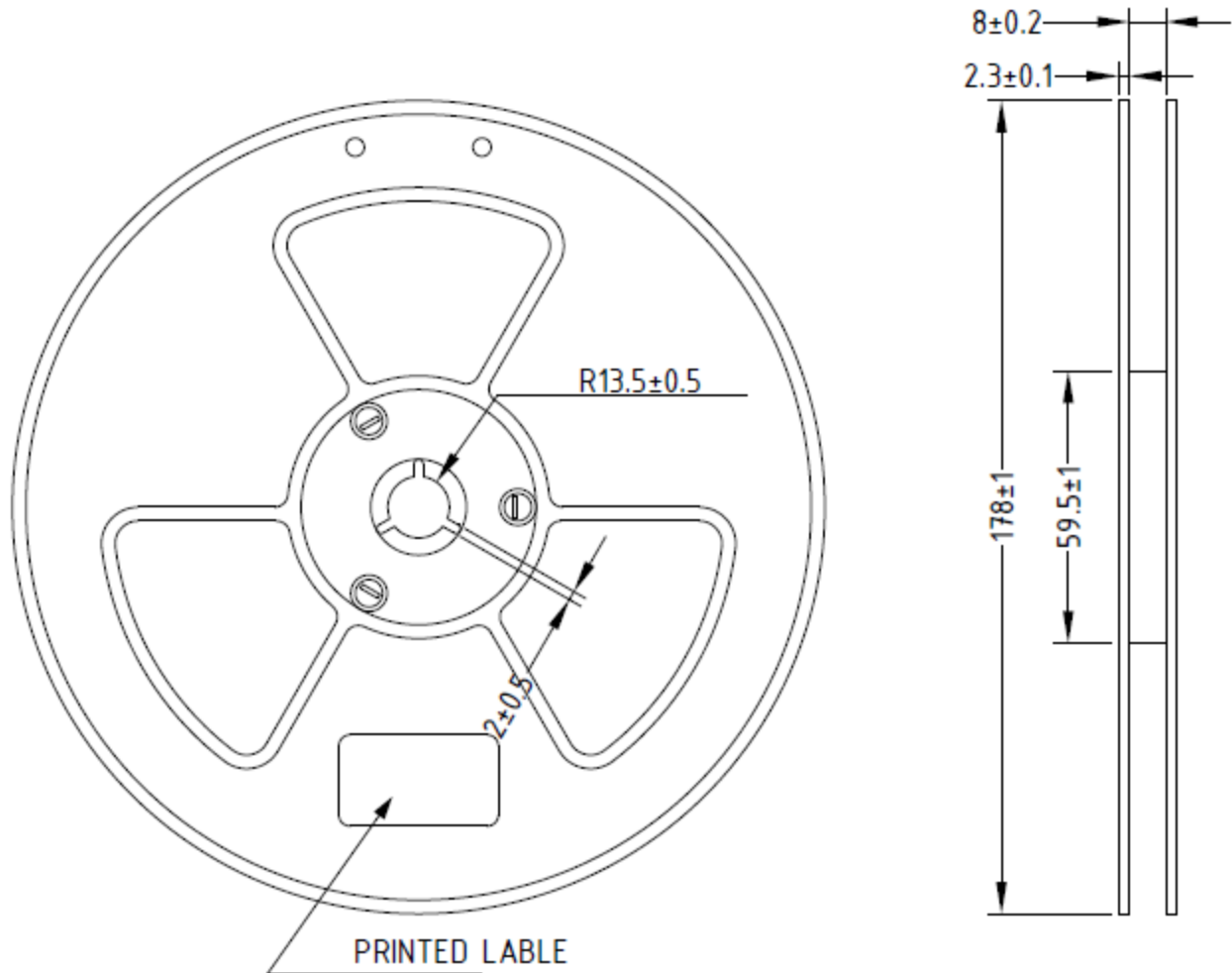


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### REEL DIMENSION



#### Notes:

1. Baking is required when the pack has been opened for more than four weeks. Baking recommended conditions:  $60 \pm 5$  °C for 20 hours.
2. Available in 8mm carrier tape on 7 inch reel (2000 pieces).