
Focal Beam Shaper - Uniform and Flat Top Hat Beam

Holo/Or has vast variety of solutions for beam shaping:

The beam shapers are diffractive optical elements (DOEs) used to transform a near-gaussian incident laser beam into a uniform-intensity (flat) spot of either round, rectangular, square, line or other shape with sharp edges in a specific work plane.

A uniform spot achieved by the beam shaper enables equal treatment to a surface, preventing over or under-exposure of specific areas. In addition, the spot is characterized by a sharp transition region that creates a clear border between the treated and untreated area.

In this section, we present our hybrid elements which give a flat uniform intensity distribution at a specific working distance.

Features:

- Very good uniformity
- High efficiency
- Sharp beam edge
- High power threshold
- Optional Ar/Ar coating
- Any output beam profile
- Wavelengths from UV to IR

Applications:

- Laser materials processing: perforation, welding, cutting, scribing, ablation and drilling

- Biomedical applications
- Laser displays
- Marking and printing

General Specifications

Materials:	Fused Silica, ZnSe, Plastic
Wavelength range:	193nm to 10.6um
DOE design:	2-level (binary) to 16-level
Minimum Full angle:	very small (about 1.5 times Diffraction Limit)
Diffraction efficiency:	86% - 98%
Element size:	Few mm to 100mm
Coating (optional):	AR/AR Coating
Custom Design:	Almost any arbitrary shape

Top hat products

型号	激光波长 [nm]	光束直径 [mm]	工作距离 [mm]	光斑尺寸 [mm] EFL=100mm	透镜尺寸 DOE [mm]	光斑形状
TH-042-U-Y-A	355	2.5	50	50 um	25.4	圆形
ST-200-C-Y-A	9250	12	63.5	260x260um	27.94	正方形
ST-202-U-Y-A	355	14	50	50x6 um	25.4	长方形
ST-203-I-Y-A	1064	6	52	50x50 um	25.4	正方形
ST-204-Q-Y-A	532	6	52	30 x 30 um	25.4	正方形
TH-241-W-Y-A	266	8	200	1mm	25.4	Line
TH-235-U-Y-A	355	12	700	10mm	27.94	Line
ST-209-Q-Y-A	532	2	104.76	150x200um	12.7	长方形
ST-211-A-Y-A	10600	11	38	125x200um	27.94	长方形
ST-215-U-Y-A	355	14	47.8	6x34um	25.4	长方形
ST-216-U-Y-A	355	14	47.8	6x38um	25.4	长方形
ST-217-U-Y-A	355	14	47.8	6x42um	25.4	长方形
TH-234-A-Y-A	10600	14	95	250um	27.94	圆形

TH-233-A-Y-A	10600	12	63.5	0.25x2.5mm	27.94	长方形
TH-226-A-Y-A	10600	4	100	3x3mm	20	正方形
TH-223-A-Y-A	10600	2.4	565	27.8x27.8mm	15	正方形
TH-222-Q-Y-A	532	2.9	40	200um	12.7	Line
TH-219-A-Y-A	10600	12	63.5	0.25x1.5mm	27.94	长方形
TH-009-A-Y-A	10600	10	63.5	280x280 um	27.94	正方形
TH-011-A-Y-A	10600	25	250	3 mm	38.1	圆形
TH-217-U-Y-A	355	2	100	100x100um	12.7	正方形
TH-014-I-Y-A	1064	7	42.52	190 um	20	圆形
TH-017-I-Y-A	1064	39	20000	635x5.3 mm	50	长方形
TH-018-I-Y-A	1064	13	20000	635x635 mm	38.1	正方形
TH-019-I-Y-A	1064	3.5	100	210x210 um	25.4	正方形
TH-031-Q-Y-A	532	5	52.4	100 um	25.4	圆形
TH-032-Q-Y-A	532	10.9	200	2mm @FWHM	25.4	圆形
TH-216-Q-Y-A	532	12	720	10x10mm	25.4	正方形
TH-034-Q-Y-A	532	2.5	99.5	100x100 um	25.4	正方形
TH-035-Q-Y-A	532	2.5	99.5	90 um	25.4	圆形
TH-036-Q-Y-A	532	3.5	100	200x200 um	25.4	正方形
ST-201-A-Y-A	10600	16.5	187.5	360um	38.1	圆形
TH-043-U-Y-A	355	8	49.8	15 um	20	圆形
TH-209-U-Y-A	355	9x6	200	100 um	25.4	圆形
TH-045-U-Y-A	355	1.65	94	170x170 um	12.7	正方形
TH-046-U-Y-A	355	2.5	95	61x61um	12.7	正方形
TH-051-W-Y-A	266	5	42	15 um	25.4	圆形
TH-101-I-Y-A	1064	3	100	150 um	25.4	圆形
TH-102-I-Y-A	1064	6	100	150 um	25.4	圆形
TH-103-I-Y-A	1064	9	1000	10x10 mm	25.4	正方形
TH-202-A-Y-A	10600	14.5	79.5	370um	20	圆形
TH-203-D-Y-A	2940	4	80	200 um	11	圆形
TH-204-Q-Y-A	532	3.5	105	200x200um	25.4	正方形
TH-205-A-Y-A	10600	4	100	1.5mm	25.4	圆形
TH-207-U-Y-A	355	3.5	99.35	200x200 um	25.4	正方形
TH-208-A-Y-A	10600	13	150	5 mm	27.94	Line
TH-245-U-Y-A	355	12	50	45x10um	25.4	长方形
TH-231-I-Y-A	1064	5	100	0.2x0.6mm	12.7	长方形
TH-244-U-Y-A	355	12	50	35x13um	25.4	长方形
TH-003-A-Y-A	10600	3.7	41	650um	12.7	Line
TH-004-A-Y-A	10600	12	63.4	390 um	27.94	圆形
TH-005-C-Y-A	9250	12	62.9	350 um	27.94	圆形

TH-224-X-Y-A	1070	14	75.76	1x1mm	38.1	正方形
TH-006-A-Y-A	10600	25	125	15X1 mm	38.1	长方形
TH-033-X-Y-A	800	6	200	3 mm	25.4	圆形
TH-232-X-Y-A	1070	12	150	300x300um	38.1	正方形
TH-007-C-Y-A	9250	25	121	14.2X1.7 mm	38.1	长方形
TH-008-C-Y-A	9250	10	62.9	260x260 um	27.94	正方形
ST-208-X-Y-A	1070	14	75	500x500um	30	正方形
ST-205-I-Y-A	1064	7	100	210x210um	25.4	正方形
TH-012-H-Y-A	1319	7	43.2	170 um	20	圆形
TH-044-1-Y-A	337	8	49.4	20 um	20	圆形