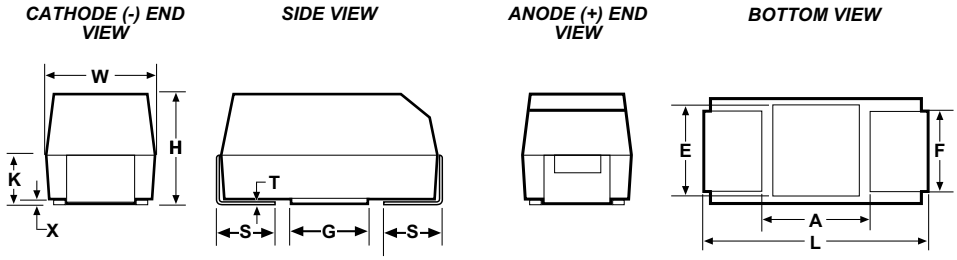
FEATURES

- Polymer Cathode Technology
- 125ºC Maximum Temperature Capability
- High Frequency Capacitance Retention
- Non-Ignition Failure Mode
- Capacitance: 33 - 680µF
- Voltage: 2.5 to 16 volts
- Use up to 90% of Rated Voltage (10% Derating) for part types ≤ 10 Volts
- Use up to 80% of Rated Voltage (20% Derating) for part types >10 Volts
- Operating Temperature -55ºC to +125ºC
- 100% Accelerated Steady State Aging
- 100% Surge Current Testing
- Self-Healing Mechanism
- Volumetrically Efficient
- Extremely Stable ESR at 125ºC
- EIA Standard Case Size
- RoHS Compliant / Leadfree Termination (See www.kemet.com for lead transition)

OUTLINE DRAWING

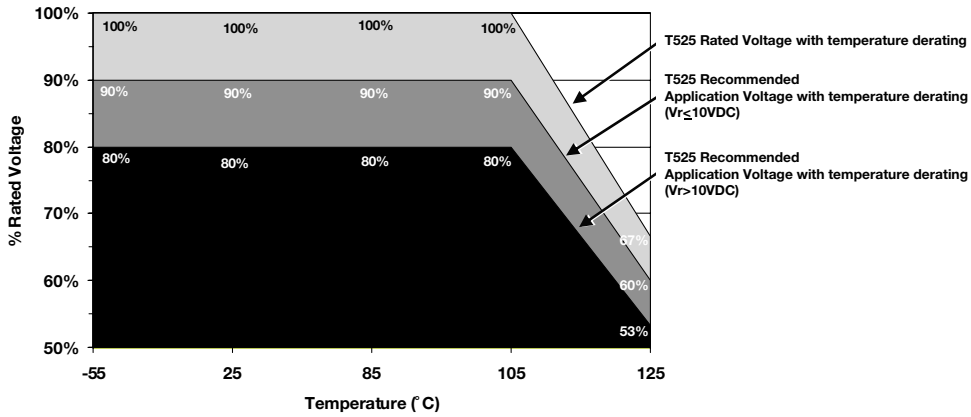


DIMENSIONS - MILLIMETERS

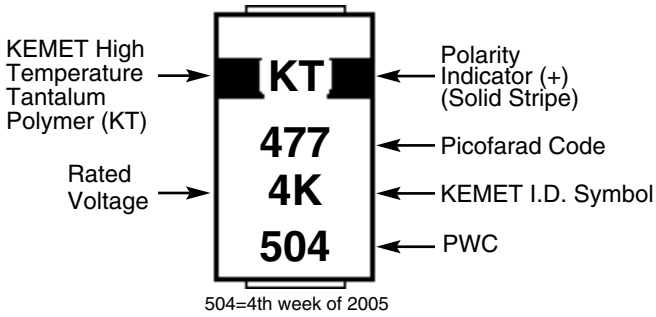
Case Size		L	W	H	K ±0.20	F ±0.1	S ±0.3	X (Ref)	T (Ref)	A (Min)	G (Ref)	E (Ref)
KEMET	EIA											
T	3528-12	3.5 ± 0.2	2.8 ± 0.2	1.2 max.	0.3	2.2	0.8	0.05	0.13	2.1	1.8	2.2
B	3528-21	3.5 ± 0.2	2.8 ± 0.2	1.9 ± 0.1	0.9	2.2	0.8	0.10 ± 0.10	0.13	2.1	1.8	2.2
D	7343-31	7.3 ± 0.3	4.3 ± 0.3	2.8 ± 0.3	1.5	2.4	1.3	0.10 ± 0.10	0.13	3.8	3.5	3.5

RECOMMENDED TEMPERATURE/VOLTAGE DERATING

T525 Temperature/Application Recommended Voltage Derating



COMPONENT MARKING



T525 RATINGS & PART NUMBER REFERENCE

Capacitance µF	Case Size	KEMET Part Number	DC Leakage µA @ 25°C Max	DF% @ 25°C 120 Hz Max	ESR mΩ @ 25°C 100 kHz Max	Ripple Current (Arms) 100 kHz Max	
						w/ΔT= 20°C @ -55°C to 105°C	w/ΔT= 2°C @ 125°C
2.5 Volt Rating at 105°C (1.7 Volt Rating at 125°C)							
100.0	T	T525T107M2R5A(1)E080	25	8.0	80	0.9	0.3
330.0	D	T525D337M2R5A(1)E025	83	10.0	25	2.4	0.8
470.0	D	T525D477M2R5A(1)E025	118	10.0	25	2.4	0.8
680.0	D	T525D687M2R5A(1)E025	170	10.0	25	2.4	0.8
3 Volt Rating at 105°C (2 Volt Rating at 125°C)							
100.0	B	T525B107M003A(1)E080	30	8.0	80	1.0	0.3
150.0	B	T525B157M003A(1)E080	45	8.0	80	1.0	0.3
330.0	D	T525D337M003A(1)E025	99	10.0	25	2.4	0.8
470.0	D	T525D477M003A(1)E025	141	10.0	25	2.4	0.8
680.0	D	T525D687M003A(1)E025	204	10.0	25	2.4	0.8
4 Volt Rating at 105°C (2.7 Volt Rating at 125°C)							
68.0	T	T525T686M004A(1)E080	27	8.0	80	0.9	0.3
68.0	B	T525B686M004A(1)E080	28	8.0	80	1.0	0.3
100.0	B	T525B107M004A(1)E080	40	8.0	80	1.0	0.3
220.0	D	T525D227M004A(1)E025	88	10.0	25	2.4	0.8
330.0	D	T525D337M004A(1)E025	132	10.0	25	2.4	0.8
470.0	D	T525D477M004A(1)E025	188	10.0	25	2.4	0.8
470.0	D	T525D477M004A(1)E040	188	10.0	40	1.9	0.6
6.3 Volt Rating at 105°C (4.2 Volt Rating at 125°C)							
33.0	B	T525B336M006A(1)E080	21	8.0	80	1.0	0.3
47.0	T	T525T476M006A(1)E080	30	8.0	80	0.9	0.3
47.0	B	T525B476M006A(1)E080	30	8.0	80	1.0	0.3
68.0	B	T525B686M006A(1)E080	43	8.0	80	1.0	0.3
150.0	D	T525D157M006A(1)E025	95	10.0	25	2.4	0.8
220.0	D	T525D227M006A(1)E025	139	10.0	25	2.4	0.8
330.0	D	T525D337M006A(1)E025	208	10.0	25	2.4	0.8
330.0	D	T525D337M006A(1)E040	208	10.0	40	1.9	0.6
8 Volt Rating at 105°C (5.3 Volt Rating at 125°C)							
33.0	T	T525T336M008A(1)E080	26	8.0	80	0.9	0.3
10 Volt Rating at 105°C (6.6 Volt Rating at 125°C)							
22.0	B	T525B226M010A(1)E080	22	8.0	80	1.0	0.3
33.0	T	T525T336M010A(1)E080	33	8.0	80	0.9	0.3
33.0	B	T525B336M010A(1)E080	33	8.0	80	1.0	0.3
100.0	D	T525D107M010A(1)E025	100	10.0	25	2.4	0.8
100.0	D	T525D107M010A(1)E055	100	10.0	55	1.7	0.5
150.0	D	T525D157M010A(1)E025	150	10.0	25	2.4	0.8
150.0	D	T525D157M010A(1)E055	150	10.0	55	1.7	0.5
220.0	D	T525D227M010A(1)E025	220	10.0	25	2.4	0.8
16 Volt Rating at 105°C (10.6 Volt Rating at 125°C)							
47.0	D	T525D476M016A(1)E035	76	10.0	35	2.1	0.7
47.0	D	T525D476M016A(1)E065	76	10.0	65	1.5	0.5

(1) To complete KEMET Part Number, insert lead material designation for ordering information below. Higher voltage ratings and tighter tolerance product may be substituted within the same size at KEMET'S option. Voltage substitutions will be marked with the higher voltage rating.

T525 ORDERING INFORMATION

T 525 D 337 M 006 A T E040

Tantalum

Series
T525 - High Temperature Tantalum Polymer (KT)

Case Size
B, D, T

Capacitance Picofarad Code
First two digits represent significant figures.
Third digit specifies number of zeros to follow.

ESR
Expressed in milliohms

Lead Material
T - 100% Tin
H - Tin/Lead (SnPb 5% Pb minimum)

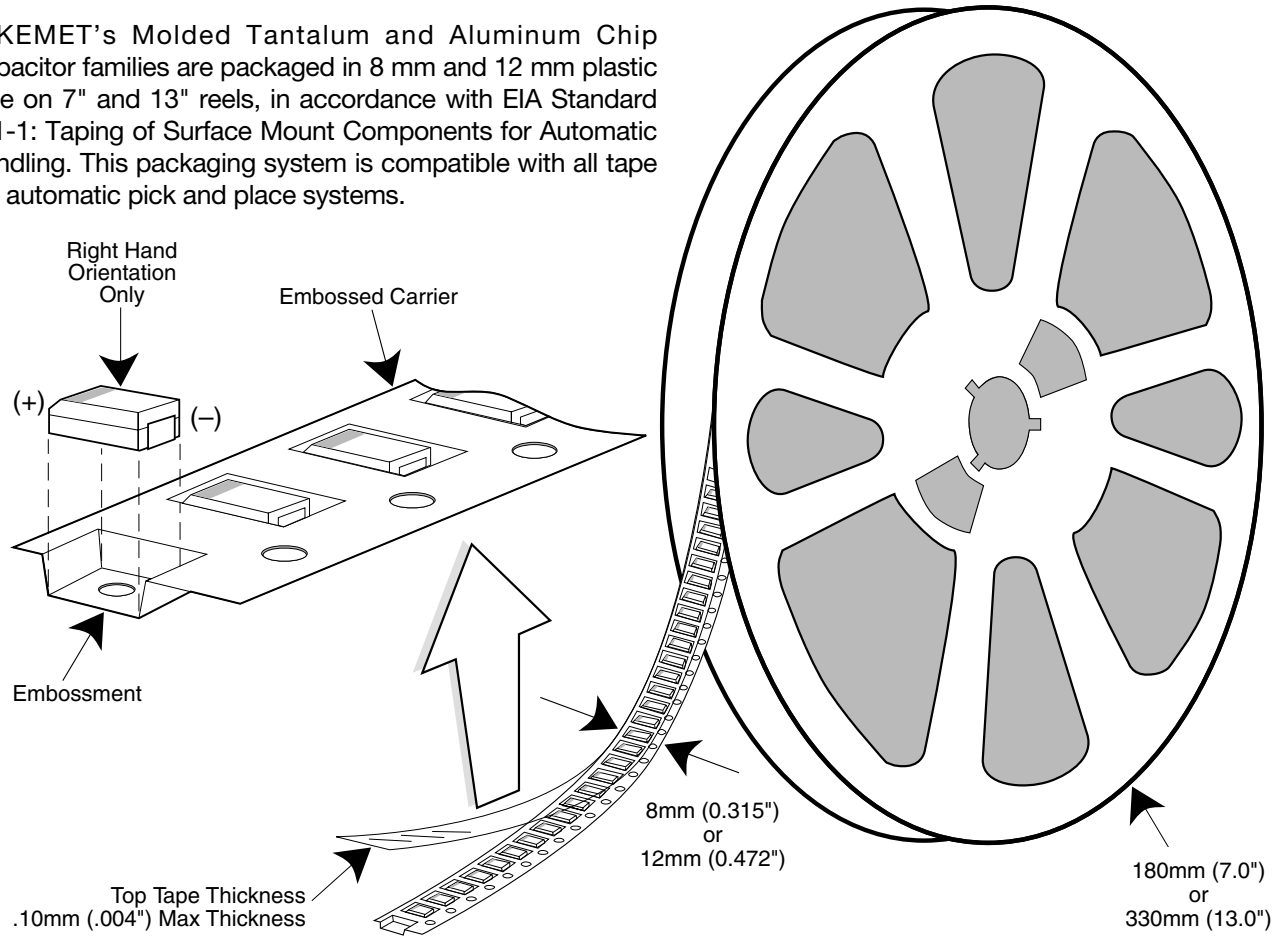
Failure Rate
A - Not Applicable

Voltage
Note: 006 - 6.3

Capacitance Tolerance
M = ± 20%

Tape & Reel Packaging

KEMET's Molded Tantalum and Aluminum Chip Capacitor families are packaged in 8 mm and 12 mm plastic tape on 7" and 13" reels, in accordance with EIA Standard 481-1: Taping of Surface Mount Components for Automatic Handling. This packaging system is compatible with all tape fed automatic pick and place systems.



Labeling: Bar code labeling (standard or custom) shall be on the side of the reel opposite the sprocket holes. Refer to EIA-556.

QUANTITIES PACKAGED PER REEL

Case Code		Tape Width-mm	7" Reel*	13" Reel*
KEMET	EIA			
R	2012-12	8	2,500	10,000
S	3216-12	8	2,500	10,000
T	3528-12	8	2,500	10,000
U	6032-15	12	1,000	5,000
W	7343-15	12	1,000	3,000
V	7343-20	12	1,000	3,000
A	3216-18	8	2,000	9,000
B	3528-21	8	2,000	8,000
C	6032-28	12	500	3,000
D	7343-31	12	500	2,500
Y	7343-40	12	500	2,000
X	7343-43	12	500	2,000
E	7260-38	12	500	2,000

* No c-spec required for 7" reel packaging. C-7280 required for 13" reel packaging.

Performance Notes

1. **Cover Tape Break Force:** 1.0 Kg Minimum.
2. **Cover Tape Peel Strength:** The total peel strength of the cover tape from the carrier tape shall be:

Tape Width	Peel Strength
8 mm	0.1 Newton to 1.0 Newton (10g to 100g)
12 mm	0.1 Newton to 1.3 Newton (10g to 130g)

   The direction of the pull shall be opposite the direction of the carrier tape travel. The pull angle of the carrier tape shall be 165° to 180° from the plane of the carrier tape. During peeling, the carrier and/or cover tape shall be pulled at a velocity of 300 ±10 mm/minute.
3. **Reel Sizes:** Molded tantalum capacitors are available on either 180 mm (7") reels (standard) or 330 mm (13") reels (with C-7280). Note that 13" reels are preferred.
4. **Labeling:** Bar code labeling (standard or custom) shall be on the side of the reel opposite the sprocket holes. Refer to EIA-556.

Embossed Carrier Tape Configuration: Figure 1

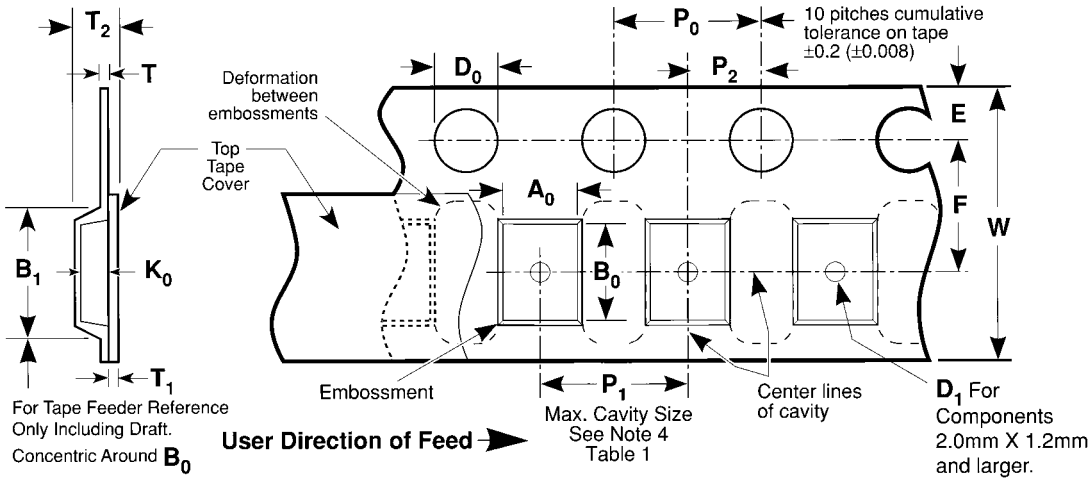


Table 1 — EMBOSSED TAPE DIMENSIONS (Metric will govern)

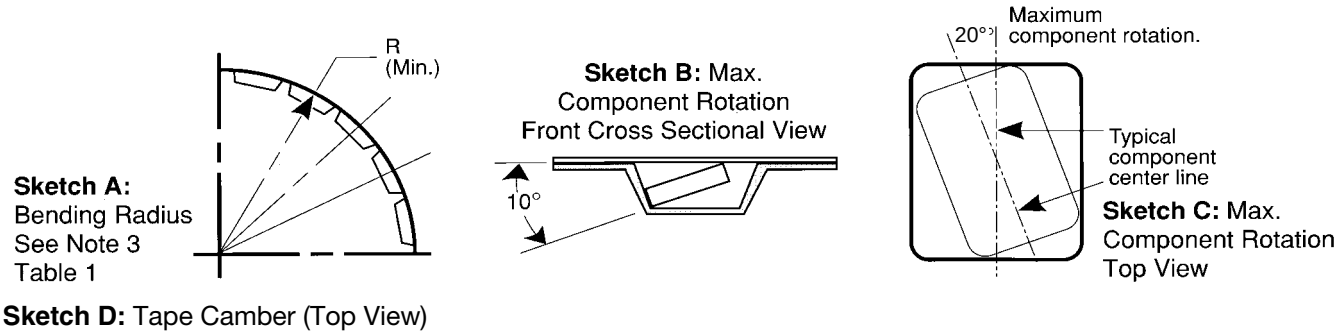
Constant Dimensions — Millimeters (Inches)							
Tape Size	**D_0**	**E**	**P_0**	**P_2**	**T Max**	**T_1 Max**	
8 mm and 12 mm	1.5 +0.10 -0.0 (0.059 +0.004, -0.0)	1.75 ±0.10 (0.069 ±0.004)	4.0 ±0.10 (0.157 ±0.004)	2.0 ±0.05 (0.079 ±0.002)	0.600 (0.024)	0.100 (0.004)	

Variable Dimensions — Millimeters (Inches)									
Tape Size	**Pitch**	**B_1 Max. Note 1**	**D_1 Min. Note 2**	**F**	**P_1**	**R Min. Note 3**	**T_2 Max**	**W**	**$A_0B_0K_0$ Note 4**
8 mm	Single (4 mm)	4.4 (0.173)	1.0 (0.039)	3.5 ±0.05 (0.138 ±0.002)	4.0 ±0.10 (0.157 ±0.004)	25.0 (0.984)	2.5 (0.098)	8.0 ±0.30 (.315 ±0.012)	
12 mm	Double (8 mm)	8.2 (0.323)	1.5 (0.059)	5.5 ±0.05 (0.217 ±0.002)	8.0 ±0.10 (0.315 ±0.004)	30.0 (1.181)	4.6 (0.181)	12.0 ±0.30 (0.472 ±0.012)	

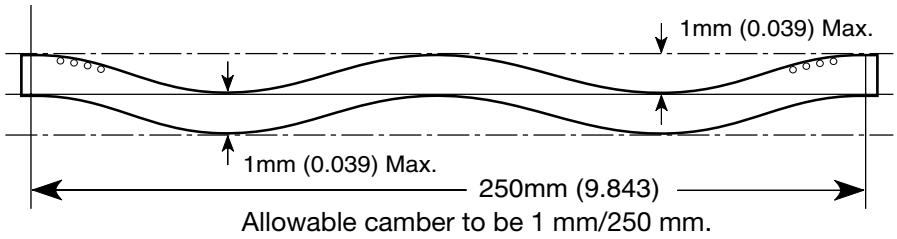
NOTES

1. B1 dimension is a reference dimension for tape feeder clearance only.
2. The embossment hole location shall be measured from the sprocket hole controlling the location of the embossment. Dimensions of embossment location and hole location shall be applied independent of each other.
3. Tape with components shall pass around radius "R" without damage (see sketch A). The minimum trailer length (Fig. 2) may require additional length to provide R min. for 12 mm embossed tape for reels with hub diameters approaching N min. (Table 2)
4. The cavity defined by A_0, B_0, and K_0 shall be configured to surround the part with sufficient clearance such that the chip does not protrude beyond the sealing plane of the cover tape, the chip can be removed from the cavity in a vertical direction without mechanical restriction, rotation of the chip is limited to 20 degrees maximum in all 3 planes, and lateral movement of the chip is restricted to 0.5 mm maximum in the pocket (not applicable to vertical clearance.)

Embossed Carrier Tape Configuration (cont.)



Sketch D: Tape Camber (Top View)



Allowable camber to be 1 mm/250 mm.

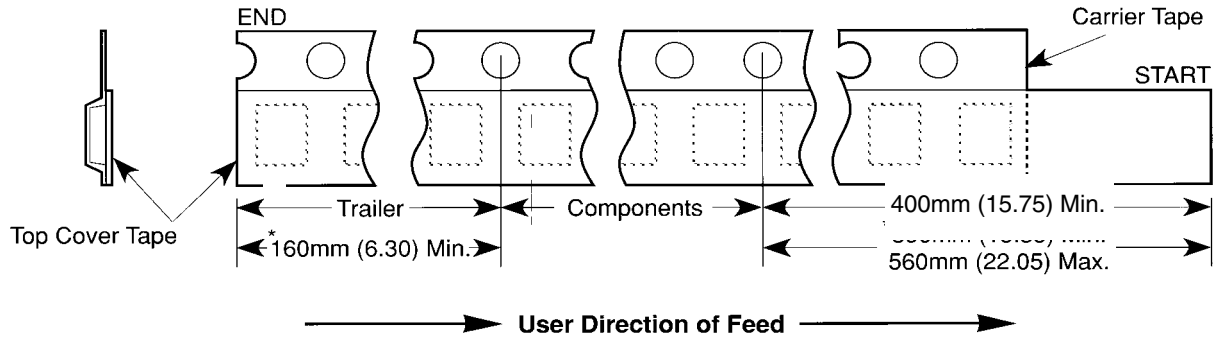


Figure 2: Tape Leader & Trailer Dimensions (Metric Dimensions Will Govern)

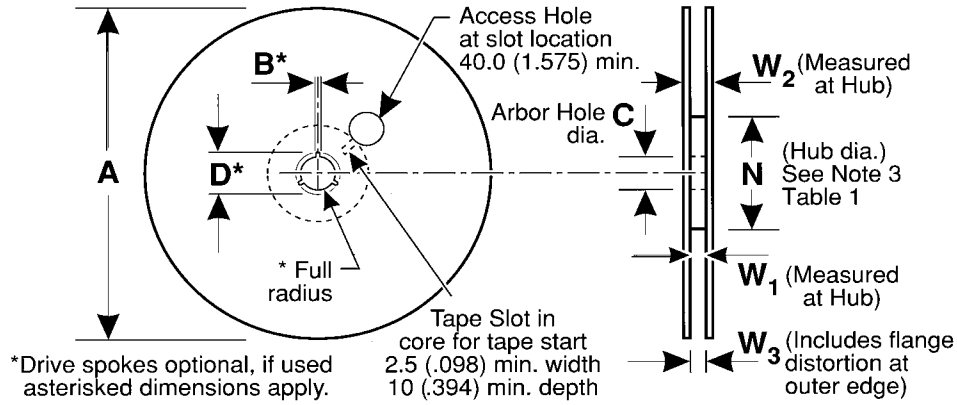


Figure 3: Reel Dimensions (Metric Dimensions will govern)

Table 2 – REEL DIMENSIONS (Metric will govern)

Tape Size	A Max	B* Min	C	D* Min	N Min	W_1	W_2 Max	W_3
8 mm	330.0 (12.992)	1.5 (0.059)	13.0 ± 0.20 (0.512 ± 0.008)	20.2 (0.795)	50.0 (1.969) See Note 3 Table 1	8.4 +1.5, -0.0 (0.331 +0.059, -0.0)	14.4 (0.567)	7.9 Min (0.311) 10.9 Max (0.429)
12 mm	330.0 (12.992)	1.5 (0.059)	13.0 ± 0.20 (0.512 ± 0.008)	20.2 (0.795)		12.4 +2.0, -0.0 (0.488 +0.078, -0.0)	18.4 (0.724)	11.9 Min (0.469) 15.4 Max (0.606)