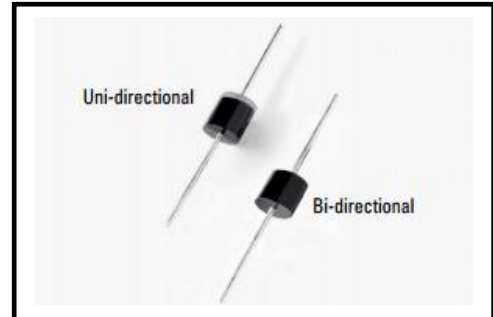


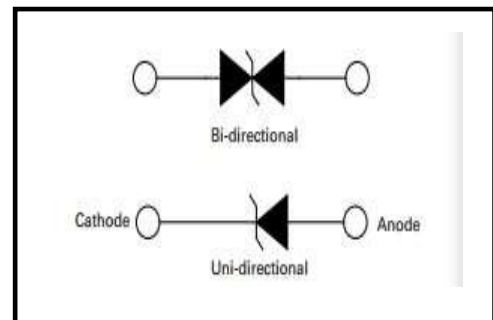
30KPA 28A/CA thru 30KPA 300A/CA Series Transient Voltage Suppressors (TVS) Data Sheet Features

Features

30000W peak pulse power capability at 10/1000 μ s waveform,
repetition rate (duty cycle): 0.05%
Typical IR less than 2 μ A above 64V
Glass passivated chip junction in P600 package.
Low incremental surge resistance.
Excellent clamping capability
High Temperature soldering guaranteed: 265 / $^{\circ}$ C 10
seconds/.375" , (9.5mm) lead length, 5lbs (2.3kg) tension
Fast response time
Plastic package has underwriters laboratory flammability 94V-0
Meets MSL level 1, per J-STD-020.
Uni-directional and Bi-directional



Functional Diagram



Mechanical Data

Case: Moulded plastic over glass passivated junction
Terminal: Plated Axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode except bi-directional models
Mounting Position: Any
Weight: 2.60g

Applications

I/O interface ■ V_{CC} bus ■ AC/DC power supply
Low frequency signal transmission line (RS232, RS485, etc.)

Maximum Ratings and Characteristics

Ratings at 25 $^{\circ}$ C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Units
Peak pulse power dissipation at 10/1000 μ s waveform (Note1, Fig.1)	P_{PPM}	Minimum 30000	Watts
Peak pulse current of at 10/1000 μ s waveform (Note 1, Fig.3)	I_{PPM}	See Table	Amps
Steady state power dissipation at $T_L=75^{\circ}$ C(Fig.5)	$P_{M(AV)}$	8.0	Watts
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load, (JEDEC Method) (Note2, Fig.6)	I_{FSM}	400	Amps
Operating junction and Storage Temperature Range.	T_J, T_{STG}	-55 to +150	$^{\circ}$ C
Typical thermal resistance junction to lead	$R_{\theta JL}$	8	$^{\circ}$ C/W
Typical thermal resistance junction to ambient	$R_{\theta JA}$	40	$^{\circ}$ C/W

Note:

1. Non-repetitive current pulse, per Fig.3 and derated above $T_A=25^{\circ}$ C per Fig.2.
2. 8.3ms single half sine-wave, or equivalent square wave, duty cycle=4 pulses per minutes maximum.

30KPA SERIES Electrical Characteristics

Part Number		Reverse Stand-Off Voltage	Breakdown Voltage Min. @IT	Breakdown Voltage Max. @ IT	Test Current	Maximum Clamping Voltage @IPP	Peak Pulse Current	Reverse Leakage @VRMW
Uni	Bi	VRMW(V)	VBR MIN(V)	VBR MAX(V)	IT (mA)	VC(V)	IPP(A)	IR(uA)
30KPA 28A	30KPA 28CA	28.0	31.28	34.57	50	50.0	606.0	5000
30KPA 30A	30KPA 30CA	30.0	33.51	37.04	50	55.2	548.9	5000
30KPA 33A	30KPA 33CA	33.0	36.90	40.78	50	58.5	517.9	5000
30KPA 36A	30KPA 36CA	36.0	40.20	44.43	50	61.8	490.3	5000
30KPA 39A	30KPA 39CA	39.0	43.60	48.19	20	67.2	450.9	2000
30KPA 42A	30KPA 42CA	42.0	46.90	51.84	10	72.0	420.8	1000
30KPA 43A	30KPA 43CA	43.0	48.00	53.05	10	73.0	415.1	1000
30KPA 45A	30KPA 45CA	45.0	50.30	55.59	5	77.4	391.5	250
30KPA 48A	30KPA 48CA	48.0	53.60	59.24	5	81.6	371.3	150
30KPA 51A	30KPA 51CA	51.0	57.00	63.00	5	86.4	350.7	50
30KPA 54A	30KPA 54CA	54.0	60.30	66.65	5	91.4	331.5	20
30KPA 58A	30KPA 58CA	58.0	64.80	71.62	5	92.4	327.9	20
30KPA 60A	30KPA 60CA	60.0	67.00	74.05	5	102.0	297.1	15
30KPA 64A	30KPA 64CA	64.0	71.50	79.03	5	104.0	291.3	10
30KPA 66A	30KPA 66CA	66.0	73.70	81.46	5	107.0	283.2	2
30KPA 70A	30KPA 70CA	70.0	78.20	86.43	5	109.0	278.0	2
30KPA 71A	30KPA 71CA	71.0	79.30	87.65	5	111.5	271.7	2
30KPA 72A	30KPA 72CA	72.0	80.40	88.86	5	114.0	265.8	2
30KPA 75A	30KPA 75CA	75.0	83.80	92.62	5	119.4	253.8	2
30KPA 78A	30KPA 78CA	78.0	87.10	96.27	5	129.0	234.9	2
30KPA 84A	30KPA 84CA	84.0	93.80	103.67	5	139.2	217.7	2
30KPA 90A	30KPA 90CA	90.0	100.50	111.08	5	146.4	207.0	2
30KPA 96A	30KPA 96CA	96.0	107.20	118.48	5	156.0	194.2	2
30KPA 102A	30KPA 102CA	102.0	113.90	125.89	5	165.6	183.0	2
30KPA 108A	30KPA 108CA	108.0	120.60	133.29	5	175.2	172.9	2
30KPA 120A	30KPA 120CA	120.0	134.00	148.11	5	194.4	155.9	2
30KPA 132A	30KPA 132CA	132.0	147.40	162.92	5	213.0	142.3	2
30KPA 144A	30KPA 144CA	144.0	160.80	177.73	5	223.2	135.8	2
30KPA 150A	30KPA 150CA	150.0	167.60	185.24	5	233.4	129.8	2
30KPA 156A	30KPA 156CA	156.0	174.30	192.65	5	245.0	123.7	2
30KPA 160A	30KPA 160CA	160.0	178.70	197.51	5	252.6	120.0	2
30KPA 168A	30KPA 168CA	168.0	187.70	207.46	5	272.4	111.2	2
30KPA 170A	30KPA 170CA	170.0	189.90	209.89	5	275.0	110.2	2
30KPA 180A	30KPA 180CA	180.0	201.10	222.27	5	290.4	104.3	2

30KPA SERIES Electrical Characteristics

Part Number		Reverse Stand-Off Voltage	Breakdown Voltage Min. @IT	Breakdown Voltage Max. @ IT	Test Current	Maximum Clamping Voltage @IPP	Peak Pulse Current	Reverse Leakage @VRMW
Uni	Bi	VRMW(V)	VBR MIN(V)	VBR MAX(V)	IT (mA)	VC(V)	IPP(A)	IR(uA)
30KPA 198A	30KPA 198CA	198.0	221.20	244.48	5	319.8	94.7	2
30KPA 216A	30KPA 216CA	216.0	241.30	266.70	5	348.6	86.9	2
30KPA 240A	30KPA 240CA	240.0	268.10	296.32	5	387.0	78.3	2
30KPA 258A	30KPA 258CA	258.0	288.20	318.54	5	416.4	72.8	2
30KPA 260A	30KPA 260CA	260.0	290.40	320.97	5	416.0	72.8	2
30KPA 270A	30KPA 270CA	270.0	301.60	333.35	5	436.2	69.5	2
30KPA 280A	30KPA 280CA	280.0	312.80	345.73	5	464.0	65.3	2
30KPA 288A	30KPA 288CA	288.0	321.70	355.56	5	469.9	64.5	2
30KPA 300A	30KPA 300CA	300.0	334.00	370.38	5	484.0	62.0	2

Notes: For bidirectional type having VR of 10V and less, the IR limit is double.

30KPA 28A/CA thru 30KPA 300A/CA Series

Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Figure 1. Peak Pulse Power Rating Curve

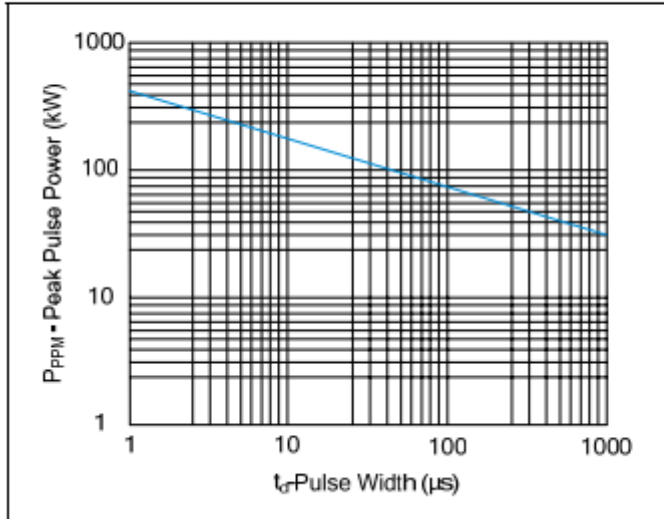


Figure 2. Pulse Derating Curve

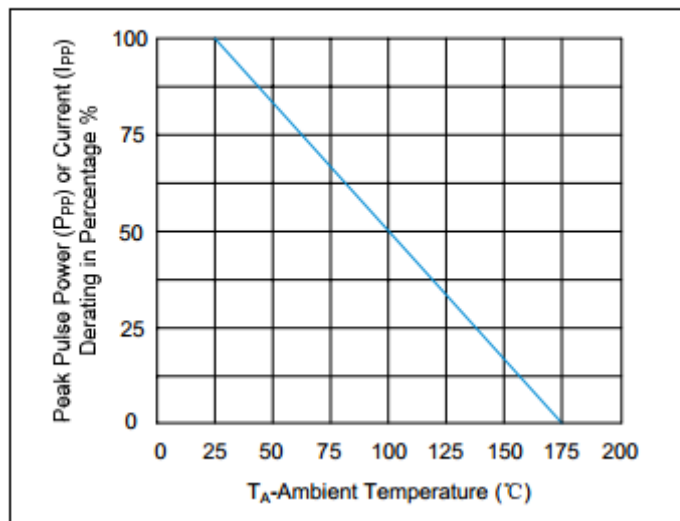


Figure 3. Pulse Waveform

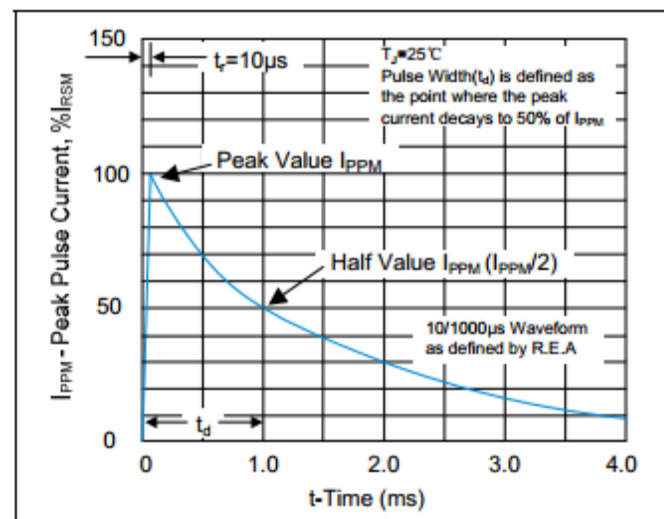


Figure 4. Typical Junction Capacitance

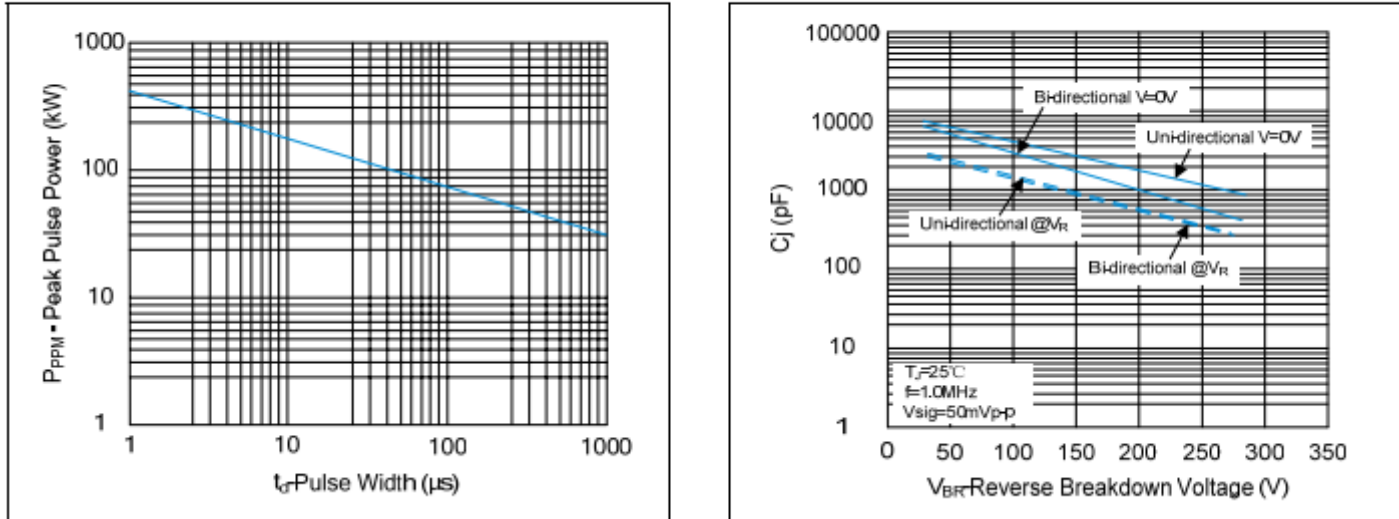


Figure 5. Steady State Power Dissipation Derating Curve

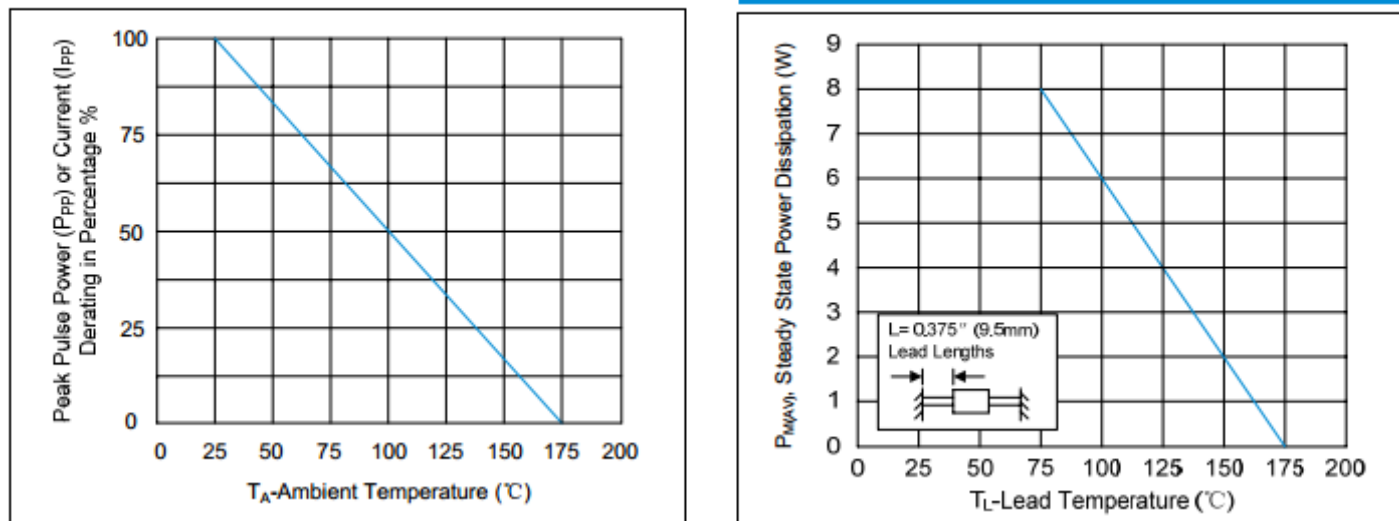
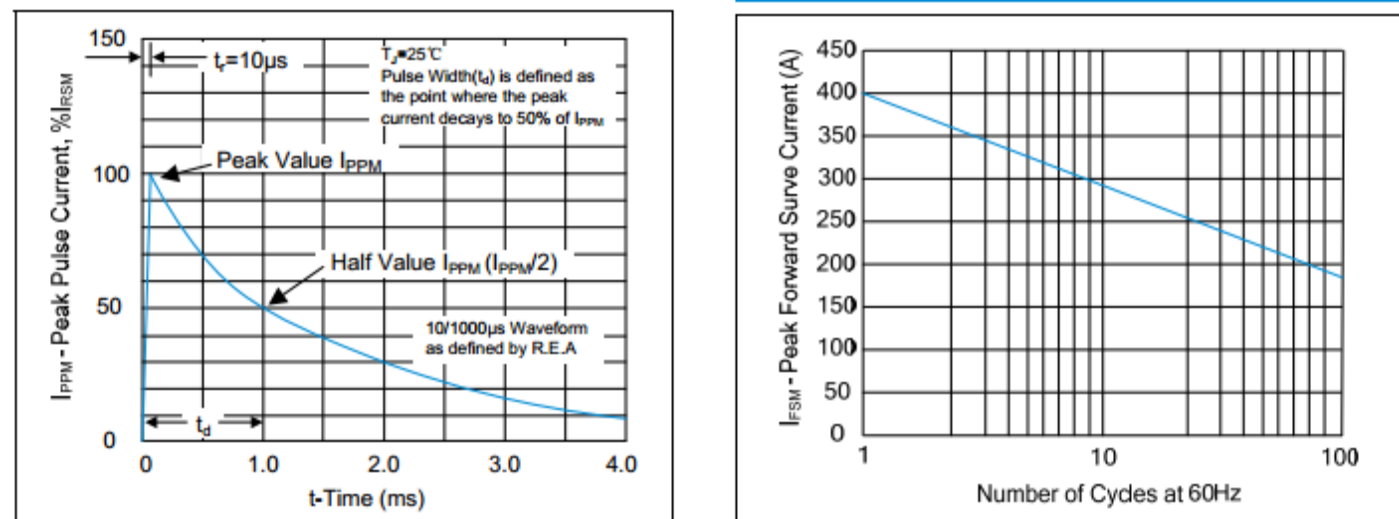
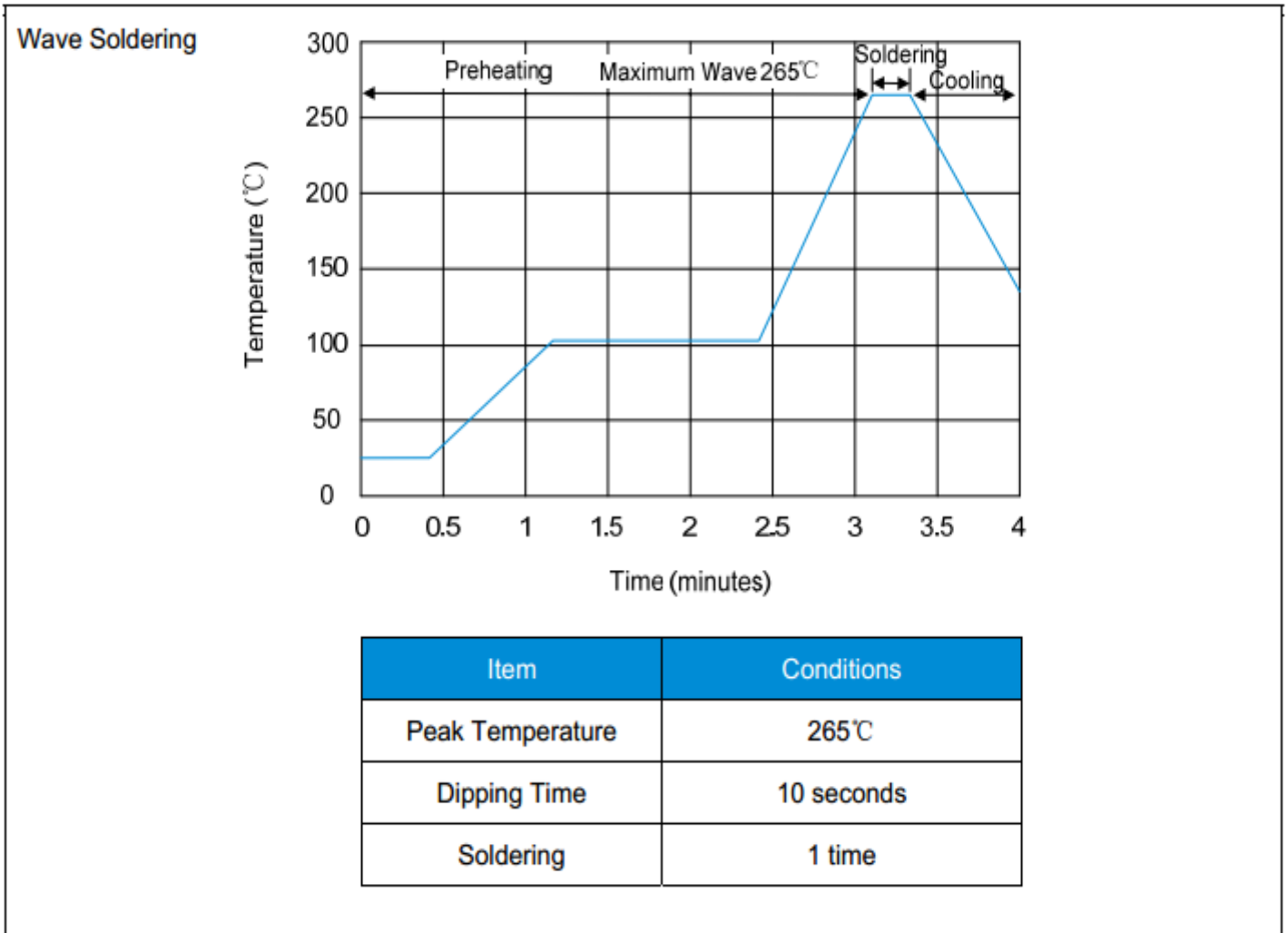


Figure 6. Maximum Non-Repetitive Forward Surge Current Uni-Directional Only

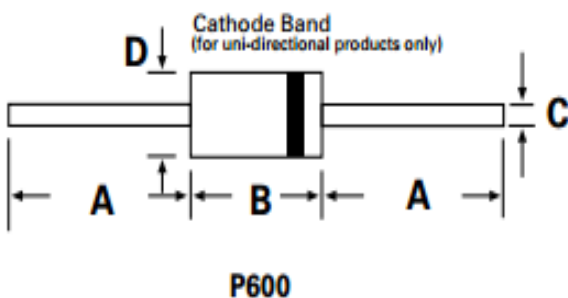


30KPA 28A/CA thru 30KPA 300A/CA Series

Recommended Soldering Conditions



Dimensions



Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	1.000	-	25.4	-
B	0.340	0.360	8.60	9.1
C	0.048	0.052	1.22	1.32
D	0.340	0.360	8.6	9.1