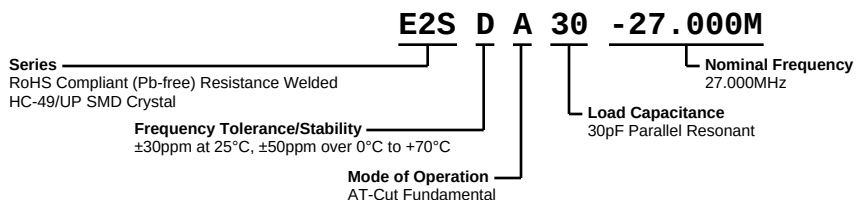


E2SDA30-27.000M



ECLIPTEK
CORPORATION



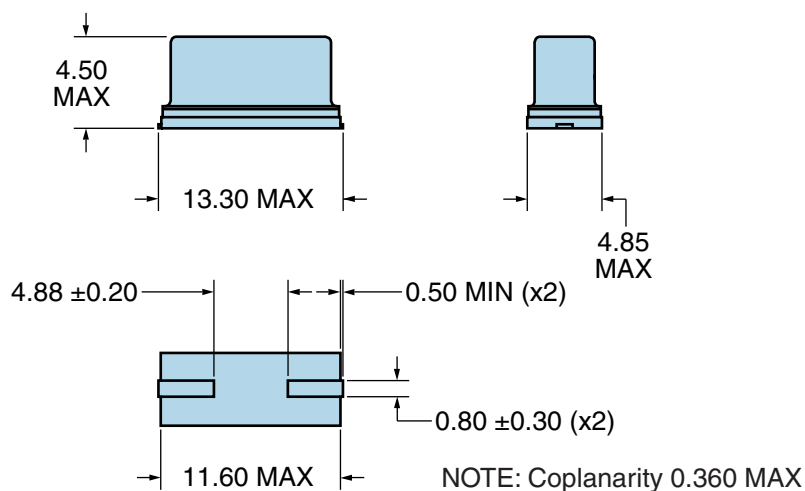
ELECTRICAL SPECIFICATIONS

Nominal Frequency	27.000MHz
Frequency Tolerance/Stability	$\pm 30\text{ppm}$ at 25°C , $\pm 50\text{ppm}$ over 0°C to $+70^\circ\text{C}$
Aging at 25°C	$\pm 5\text{ppm}/\text{year}$ Maximum
Load Capacitance	30pF Parallel Resonant
Shunt Capacitance (C0)	7pF Maximum
Equivalent Series Resistance	40 Ohms Maximum
Mode of Operation	AT-Cut Fundamental
Drive Level	1mWatt Maximum
Storage Temperature Range	-40°C to $+125^\circ\text{C}$
Insulation Resistance	500 Megaohms Minimum at 100Vdc

ENVIRONMENTAL & MECHANICAL SPECIFICATIONS

Fine Leak Test	MIL-STD-883, Method 1014 Condition A
Gross Leak Test	MIL-STD-883, Method 1014 Condition C
Lead Termination	Sn $2\mu\text{m}$ - $6\mu\text{m}$
Mechanical Shock	MIL-STD-202, Method 213 Condition C
Resistance to Soldering Heat	MIL-STD-202, Method 210
Resistance to Solvents	MIL-STD-202, Method 215
Solderability	MIL-STD-883, Method 2003
Temperature Cycling	MIL-STD-883, Method 1010
Vibration	MIL-STD-883, Method 2007 Condition A

MECHANICAL DIMENSIONS (all dimensions in millimeters)

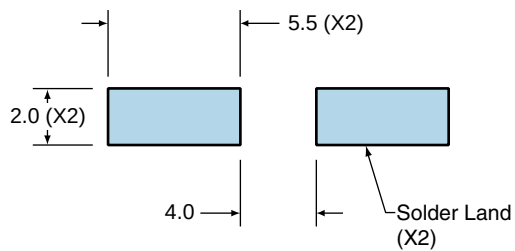


LINE	MARKING
1	E27.000M E=EclipseTek Designator M=MHz

E2SDA30-27.000M

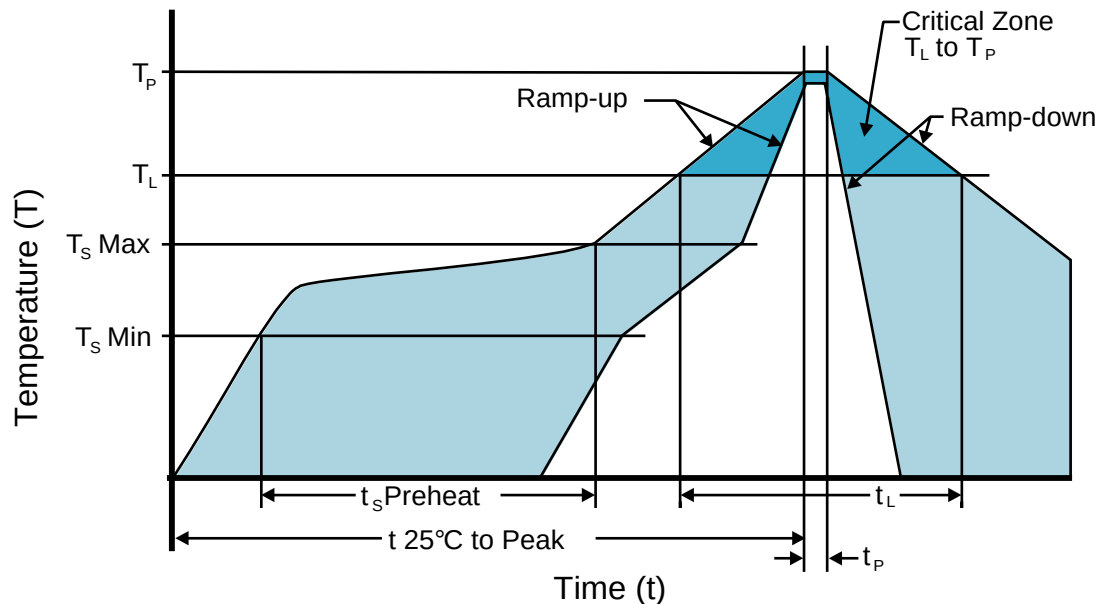
Suggested Solder Pad Layout

All Dimensions in Millimeters



All Tolerances are ± 0.1

Recommended Solder Reflow Methods



High Temperature Infrared/Convection

TS MAX to TL (Ramp-up Rate)	3°C/second Maximum
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Preheat

- Temperature Minimum (TS MIN)	150°C
- Temperature Typical (TS TYP)	175°C
- Temperature Maximum (TS MAX)	200°C
- Time (ts MIN)	60 - 180 Seconds

Ramp-up Rate (TL to TP)	3°C/second Maximum
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Time Maintained Above:

- Temperature (TL)	217°C
- Time (tL)	60 - 150 Seconds

Peak Temperature (TP)	260°C Maximum for 10 Seconds Maximum
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Target Peak Temperature (TP Target)	250°C +0/-5°C
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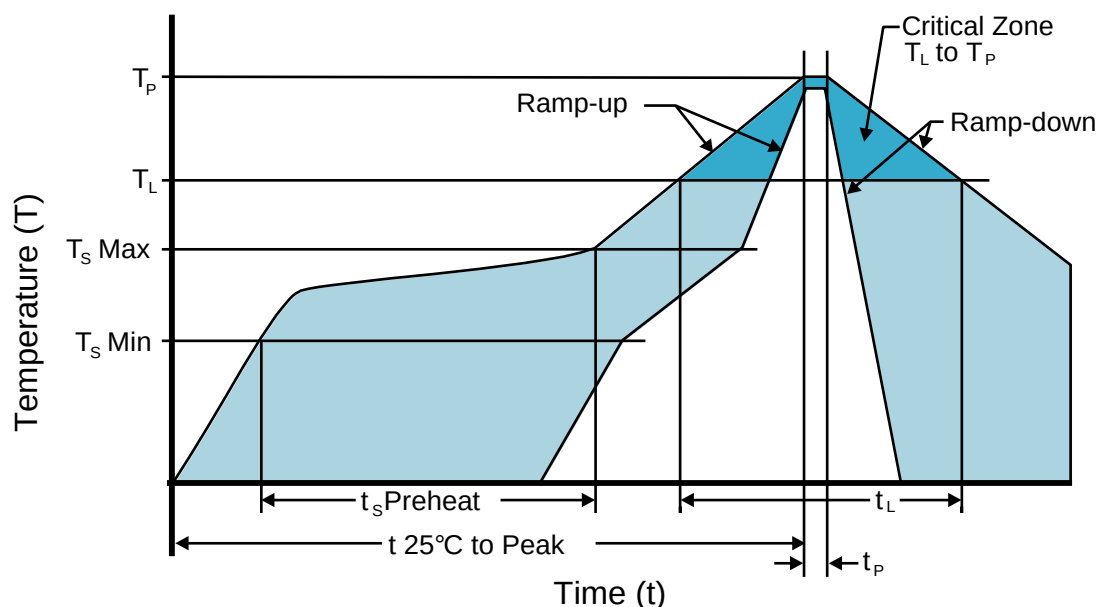
Time within 5°C of actual peak (tp)	20 - 40 seconds
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Ramp-down Rate	6°C/second Maximum
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Time 25°C to Peak Temperature (t)	8 minutes Maximum
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Moisture Sensitivity Level	Level 1
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Recommended Solder Reflow Methods



Low Temperature Infrared/Convection 245°C

T_s MAX to T_L (Ramp-up Rate) 5°C/second Maximum

Preheat

- Temperature Minimum (T_s MIN) N/A
 - Temperature Typical (T_s TYP) 150°C
 - Temperature Maximum (T_s MAX) N/A
 - Time (t_s MIN) 30 - 60 Seconds

Ramp-up Rate (T_L to T_p) 5°C/second Maximum

Time Maintained Above:

- Temperature (T_L) 150°C
 - Time (t_L) 200 Seconds Maximum

Peak Temperature (T_p) 245°C Maximum

Target Peak Temperature (T_p Target) 245°C Maximum 2 Times / 230°C Maximum 1 Time

Time within 5°C of actual peak (t_p) 10 seconds Maximum 2 Times / 80 seconds Maximum 1 Time

Ramp-down Rate 5°C/second Maximum

Time 25°C to Peak Temperature (t) N/A

Moisture Sensitivity Level Level 1

Low Temperature Manual Soldering

185°C Maximum for 10 seconds Maximum, 2 times Maximum.

High Temperature Manual Soldering

260°C Maximum for 5 seconds Maximum, 2 times Maximum.