

NN-SOL ELASTOMER CORE SOLDER BALL

DWG NBR	PART NBR	Dimension = um (NOMINAL)				SOLDER LAYER Composition Sn/Ag	BG/CSP PITCH (Typical)
		D Diameter	Core	Cu	S Solder		
730003	NN-SOL-80-3C7SA	80 ± 5	60 ± 3	3 ± 1	7 ± 1	96.5 / 3.5 ± 1.5	0.15mm
730090	NN-SOL-90-2C13SA	90 ± 5	60 ± 3	2 ± 1	13 ± 1	96.5 / 3.5 ± 1.6	0.15mm
730004	NN-SOL-110-5C10SA	110 ± 5	80 ± 3	5 ± 1	10 ± 1	96.5 / 3.5 ± 1.5	0.2mm
730008	NN-SOL-200-5C20SA	200 ± 8	150 ± 5	5 ± 1	20 ± 2	96.5 / 3.5 ± 1.5	0.3mm
731008	NN-SOL-200-5C30SA	200 ± 8	130 ± 5	5 ± 1	30 ± 3	96.5 / 3.5 ± 1.5	0.3mm
730010	NN-SOL-250-10C40SA	250 ± 9	150 ± 5	10 ± 2	40 ± 4	96.5 / 3.5 ± 1.5	0.4mm
730011	NN-SOL-262-10C40SA	262 ± 9	198 ± 6	7 ± 1.5	25 ± 3	96.5 / 3.5 ± 1.5	0.4mm
731012	NN-SOL-310-10C40SA	310 ± 10	210 ± 8	10 ± 2	40 ± 4	96.5 / 3.5 ± 1.5	0.5mm
730012	NN-SOL-311-8C30SA	311 ± 10	235 ± 8	8 ± 1.5	30 ± 3	96.5 / 3.5 ± 1.5	0.5mm
730014	NN-SOL-350-10C33SA	350 ± 10	264 ± 8	10 ± 2	33 ± 3	96.5 / 3.5 ± 1.5	0.65mm
730016	NN-SOL-410-10C40SA	410 ± 12	310 ± 10	10 ± 2	40 ± 4	96.5 / 3.5 ± 1.5	0.8mm
730020	NN-SOL-500-15C35SA	500 ± 15	400 ± 12	15 ± 2	35 ± 3	96.5 / 3.5 ± 1.5	0.8mm
730026	NN-SOL-650-20C30SA	650 ± 20	550 ± 15	20 ± 3	30 ± 3	96.5 / 3.5 ± 1.5	1.0mm
730035	NN-SOL-890-20C30SA	890 ± 25	790 ± 20	20 ± 3	30 ± 3	96.5 / 3.5 ± 1.5	1.27mm

NOTE:

- 1) CUSTOM SIZE AND ALLOY COMPOSITION AVAILABLE.
- 2) CONTACT TOPLINE FOR DETAILS.

TEMPERATURE:

STORAGE: - 40°C to + 125°C

OPERATING: - 40°C to + 125 °C

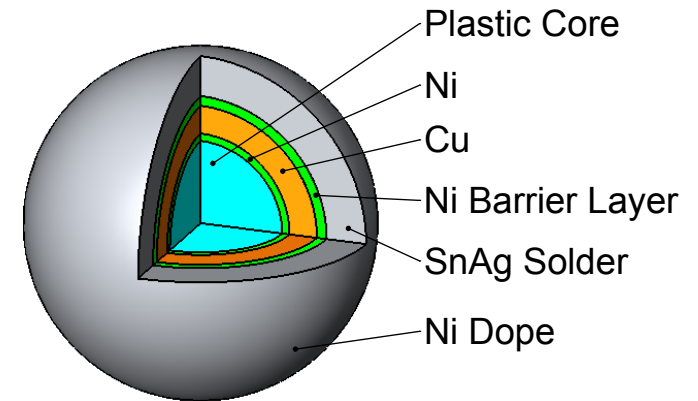
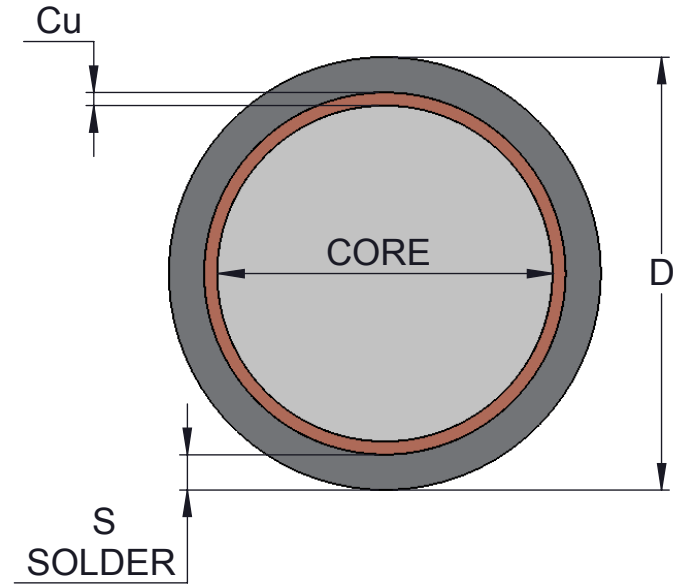
PEAK REFLOW: +250°C @ 5 Seconds

BENEFITS:

- 1) NON COLLAPSE DURING REFLOW.
- 2) MAINTAINS SPHERICAL SHAPE DURING LEAD-FREE REFLOW TEMPERATURE.
- 3) OPERATING FREQUENCY RANGE (MHz) RANGE IS DIMENSIONALLY CONSTANT.
- 4) MULTIPLE REFLOW CYCLES 5X.

APPLICATIONS:

- 1) CSP PACKAGE ON PACKAGE (PoP).
- 2) SOLDERABLE STAND-OFF ON MODULES.
- 3) SUBSTRATES: BT, FR4, GLASS, CERAMIC, ETC.



APPROVALS	DATE	TopLine®			
DRAWN T. Au	06/23/12				
ENG M. Hart	06/23/12	TITLE NN-SOL SOLDER BALL ELASTOMER CORE			
MFG		SCALE	SIZE	DRAWING NO.	REV
QA			A	730000	A
CUST		DO NOT SCALE DRAWING			SHEET 1 OF 5
REVISED					

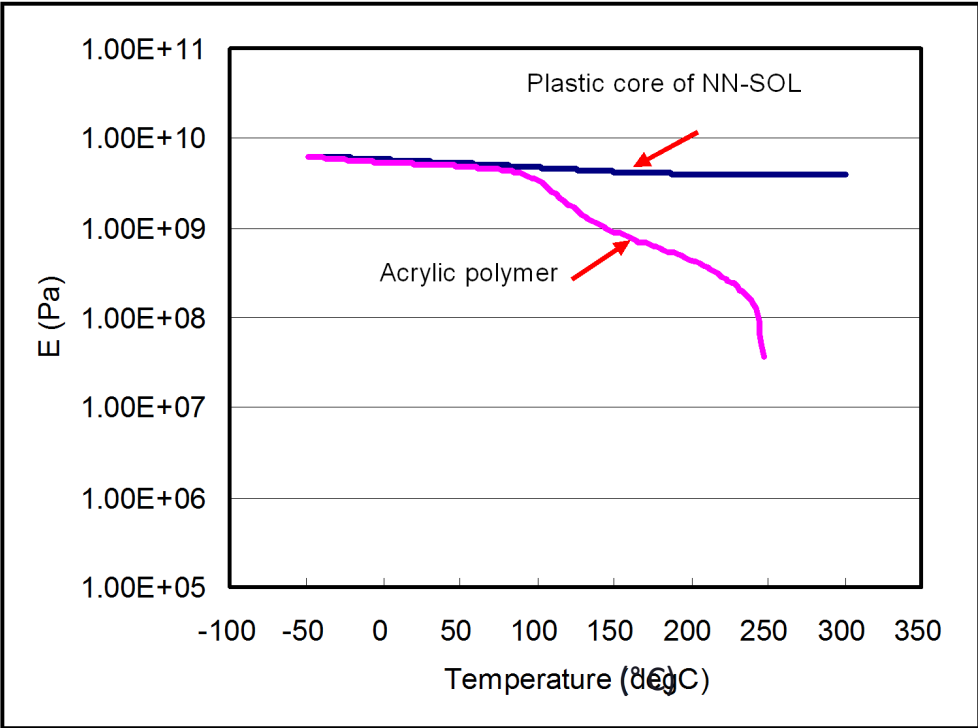
ELECTRICAL RATING

DWG NBR	PARTNBR	Electrical Rating		Rework Without Solder Paste
		Milli Ohm	Maximum CURRENT (A)	
730003	NN-SOL-80-3C7SA	<1.5	<1.0A	
730090	NN-SOL-90-2C13SA	<1.5	<1.0A	YES
730004	NN-SOL-110-5C10SA	<1.0	<1.5A	
730008	NN-SOL-200-5C20SA	<0.8	<2.0A	YES
731008	NN-SOL-200-5C30SA	<0.8	<2.0A	
730010	NN-SOL-250-10C40SA	<0.5	<2.0A	YES
730011	NN-SOL-262-10C40SA	<0.5	<2.0A	
731012	NN-SOL-310-10C40SA	<0.5	<2.0A	YES
730012	NN-SOL-311-8C30SA	<0.5	<2.0A	
730014	NN-SOL-350-10C33SA	<0.4	<2.0A	
730016	NN-SOL-410-10C40SA	<0.4	<2.0A	
730020	NN-SOL-500-15C35SA	<0.3	<2.0A	
730026	NN-SOL-650-20C30SA	<0.3	<2.0A	
730035	NN-SOL-890-20C30SA	<0.3	<2.0A	

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MFG		SCALE	SIZE A	DRAWING NO.	REV
QA				730000	A
CUST		DO NOT SCALE DRAWING			SHEET 2 OF 5
REVISED					

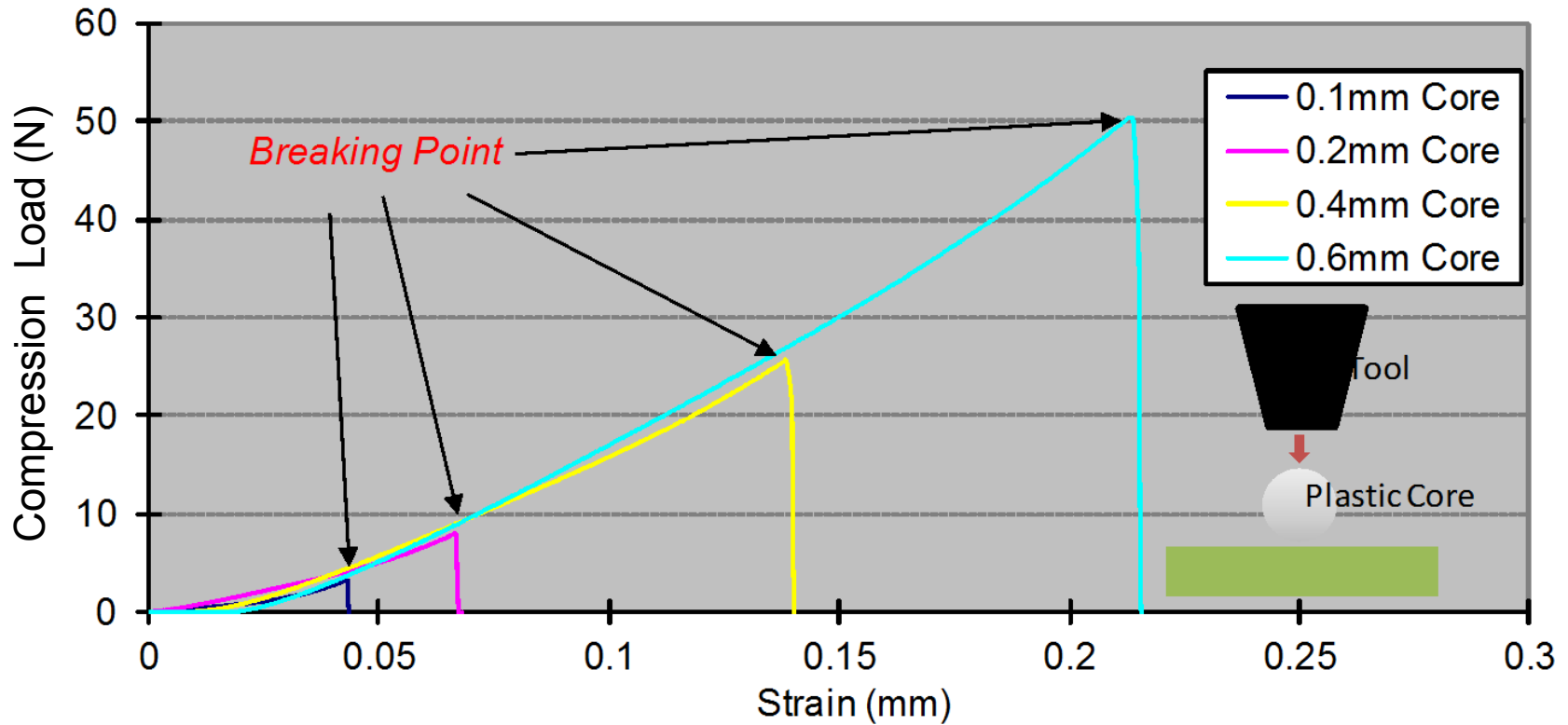
HEAT RESISTANCE OF ELASTOMER CORE

YOUNG'S MODULUS - TEMPERATURE



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MFG		SCALE	SIZE A	DRAWING NO. 730000	REV A
QA					
CUST		DO NOT SCALE DRAWING			SHEET 3 OF 5
REVISED					

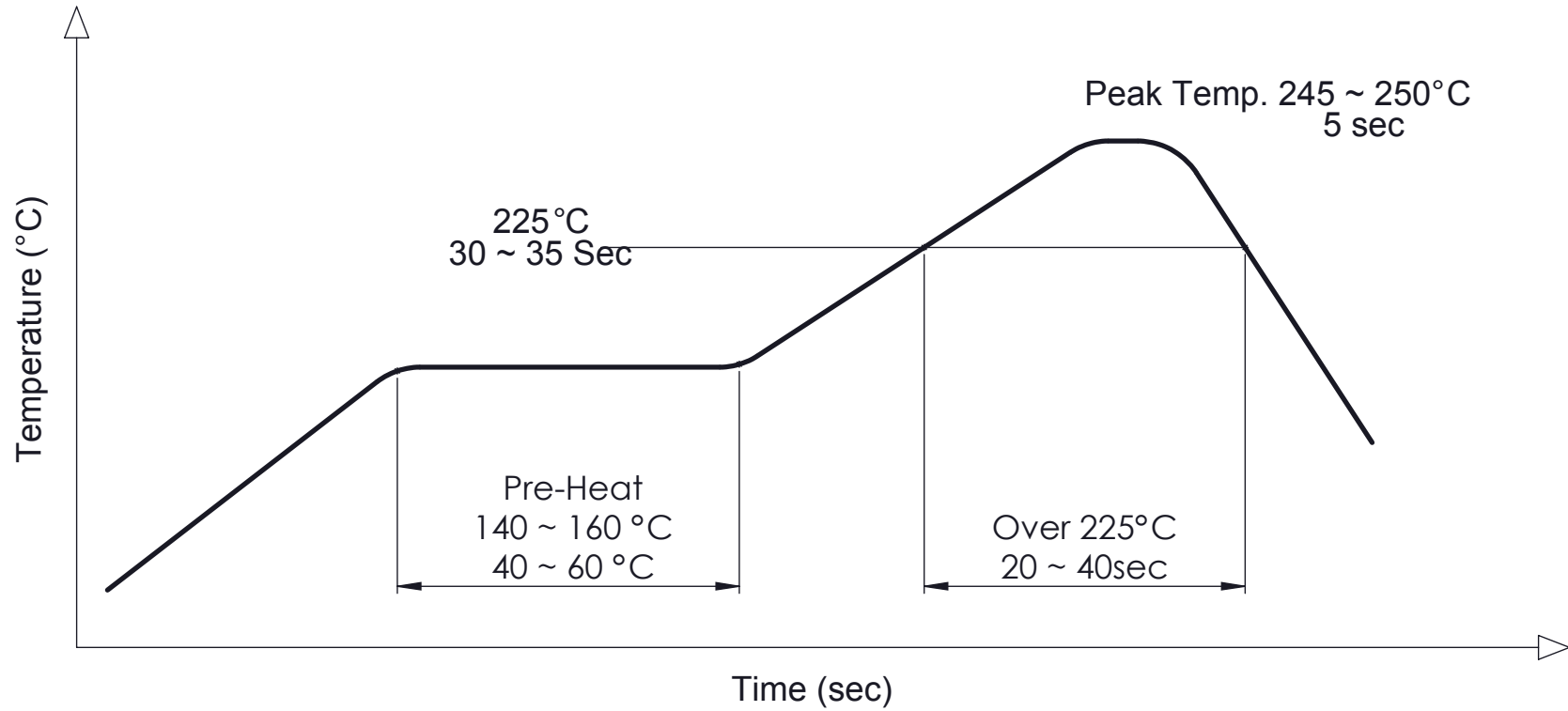
COMPRESSION OF UNPLATED ELASTOMER CORE (TEMP=25°C)



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QA			A	730000	A
CUST		DO NOT SCALE DRAWING			SHEET 4 OF 5
REVISED					

RECOMMENDED REFLOW PROFILE

Reflow Profile for lead free solder type (Sn96.5/Ag3.5)



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MFG		SCALE	SIZE A	DRAWING NO. 730000	REV A
QA					
CUST		DO NOT SCALE DRAWING			SHEET 5 OF 5
REVISED					