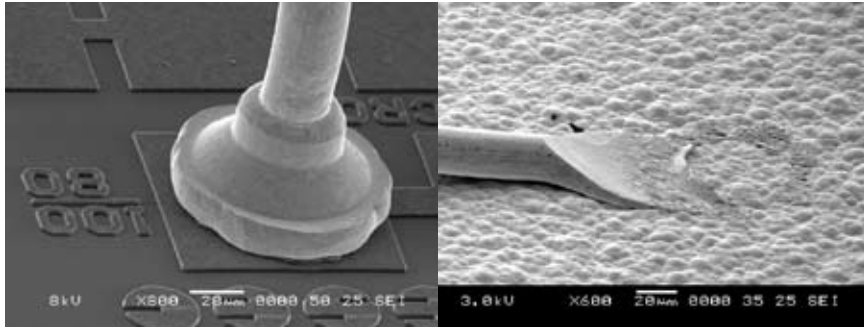
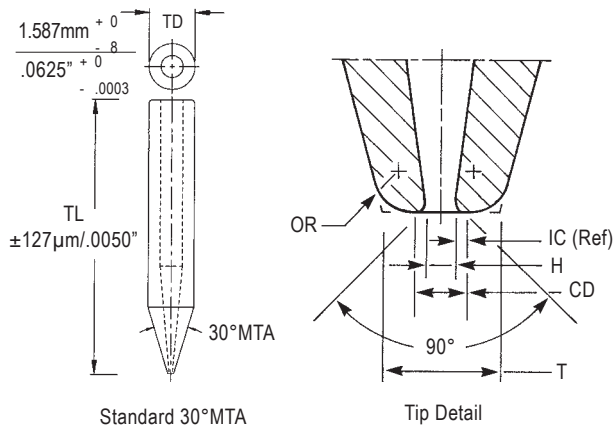


NON FINE PITCH: CSA SERIES



The CSA series has a standard 0° face angle (FA) and a relatively large outer radius (OR) design. The design combination of the FA and OR is used to provide an excellent stitch transition. It is available in matte or polished tip surface finishing. The matte option has a finely textured surface that helps to reduce the slip effect between the wire-tool interface, ensuring consistent transfer of ultrasonic energy to wire-substrate interface. The textured surface also decreases wire smashed out by reducing the material flow for bonding metallization that are soft and/ or rough.



Material + Finish	Tool Diameter (TD)	Tool Length (TL)
C = High density, Fine Grain Ceramic "Polish"	1/16 = 1.587 mm / .0625"	L = 9.53 mm / .375"
CM = High density, Fine Grain Ceramic "Matte"		XL = 11.10 mm / .437"
		XXL = 12.00 mm / .470"
		16mm = .630"
		19mm = .750"

How To Order

SPECIFY : **Tip Style - Material+Finish - Tool Diameter - Tool Length**
(Specify any special modifications required such as Main Taper Angle, MTA)

EXAMPLE : CSA - 46JH - CM - 1/16 XL
CSA - 46JH - C - 1/16 XL 20MTA

Tip Style	Hole Diameter H $\mu\text{m} / \text{in}$ $\pm 3 / .0001$	Inside Chamfer IC $\mu\text{m} / \text{in}$ (Ref)	Chamfer Diameter CD $\mu\text{m} / \text{in}$ $\pm 5 / .0002$	Outside Radius OR $\mu\text{m} / \text{in}$ $\pm 8 / .0003$	Tip Diameter T $\mu\text{m} / \text{in}$ $\pm 8 / .0003$	Useable Wire Diameter $\mu\text{m} / \text{in}$
CSA - 25DB	25 / .0010	8.0 / .00030	41 / .0016	30 / .0012	120 / .0047	18 / .0007
CSA - 33ES	33 / .0013	8.0 / .00030	48 / .0019	30 / .0012	130 / .0051	20 / .0008
CSA - 38EP	38 / .0015	8.0 / .00030	53 / .0021	30 / .0012	130 / .0051	25 / .0010
CSA - 43EE	43 / .0017	8.0 / .00030	58 / .0023	30 / .0012	130 / .0051	30 / .0012
CSA - 51NH	51 / .0020	11.5 / .00045	74 / .0029	51 / .0020	190 / .0075	33 / .0013
CSA - 64KJ	64 / .0025	11.0 / .00043	86 / .0034	65 / .0026	225 / .0089	38 / .0015
CSA - 75PT	75 / .0030	10.5 / .00040	97 / .0038	90 / .0035	270 / .0106	51 / .0020
CSA - 38JP	38 / .0015	8.0 / .00030	53 / .0021	74 / .0029	200 / .0079	25 / .0010
CSA - 43JE	43 / .0017	8.0 / .00030	58 / .0023	74 / .0029	200 / .0079	30 / .0012
CSA - 46JE	46 / .0018	6.0 / .00024	58 / .0023	74 / .0029	200 / .0079	33 / .0013
CSA - 46JH	46 / .0018	14.0 / .00055	74 / .0029	61 / .0024	200 / .0079	33 / .0013
CSA - 51JH	51 / .0020	11.5 / .00045	74 / .0029	61 / .0024	200 / .0079	33 / .0013
CSA - 56JH	56 / .0022	9.0 / .00035	74 / .0029	61 / .0024	200 / .0079	33 / .0013 - 38 / .0015
CSA - 46JJ	46 / .0018	20.0 / .00079	86 / .0034	51 / .0020	200 / .0079	33 / .0013
CSA - 51JJ	51 / .0020	17.5 / .00069	86 / .0034	51 / .0020	200 / .0079	33 / .0013
CSA - 56JJ	56 / .0022	15.0 / .00059	86 / .0034	51 / .0020	200 / .0079	33 / .0013 - 38 / .0015
CSA - 64JJ	64 / .0025	11.0 / .00043	86 / .0034	51 / .0020	200 / .0079	38 / .0015
CSA - 75TN	75 / .0030	25.0 / .00100	127 / .0050	140 / .0055	420 / .0165	51 / .0020 - 64 / .0025
CSA - 90TN	90 / .0035	7.0 / .00019	127 / .0050	140 / .0055	420 / .0165	64 / .0025