

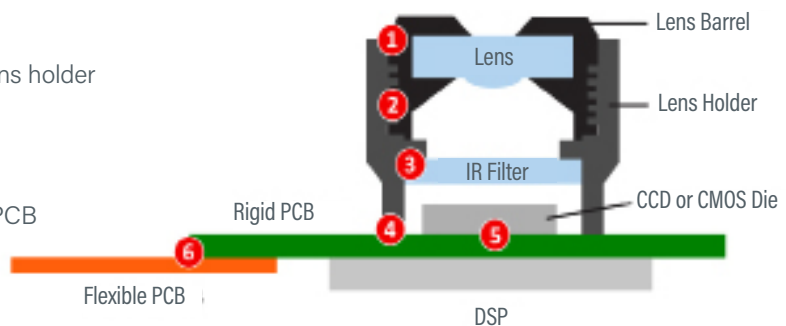
Light-Curable Materials for Camera Module Assembly

- Excellent adhesion to commonly used substrates in camera module assemblies
- Materials cure in seconds allowing faster processing and higher throughput
- Materials available for a variety of applications including active alignment, barrel fixturing, and FPC reinforcement
- Good resistance to moisture and shock

Dymax light-curable adhesives are ideal for use in the assembly of camera modules used in smart connected devices, automobiles, and industrial camera systems. Our adhesives cure in seconds, providing greater product yields in a much shorter assembly time. They provide excellent adhesion to substrates typically used in the manufacture of camera modules and electronic device housings, and can withstand harsh conditions like the moisture and shock which electronic devices are often exposed to.

Typical Camera Module Applications

- 1 - Bonding the camera lens
- 2 - Fixturing the camera lens barrel to the lens holder
- 3 - Bonding the IR filter to the lens holder
- 4 - Bonding the lens holder to the PCB
- 5 - Attaching the CCD or CMOS die to the PCB
- 6 - Reinforcing the FPC



Product	UV/Visible Light	Moisture	Heat	Description	Substrates	Viscosity, cP/mPas	Tensile at Break, MPa [psi]	Modulus of Elasticity, MPa [psi]
1. Camera Lens Bonding - Typical requirements: High viscosity, good adhesion to PC and lens								
9951-LR	•			Low reflection; easy to dispense; stores at room temperature	PC	19,000	48 [6,900]	760 [110,000]
9951-LR-G	•			Ultra-low reflection surface; stores at room temperature	PC, ABS	8,700	N/A	N/A
OP-4-20655-GEL	•			Moisture and thermal resistant	PC, ABS, AL, Glass	150,000	N/A	N/A
2. Lens Barrel to Holder Fixturing - Typical requirements: Low shrinkage; tack-free surface								
3094-GEL-REV-A	•			Fast-curing; low shrinkage and stress	LCP, PC, PU, PS	30,000	12.4 [1,800]	179 [26,000]
3094-T-REV-A	•			Fast-curing; low shrinkage and stress	LCP, PC, PU, PS	11,750	14 [2,000]	698 [101,300]
3094-T-TF*	•			Fast-curing; low shrinkage and stress	PA, PC, PMMA, PS	6,500	14.89 [2,160]	482 [69,944]
3. Lens Holder to PCB Bonding (Active Alignment) - Typical requirements: Low shrinkage; low outgassing; fast curing; good adhesion to LCP								
9900-AA	•		•	Flexible; moisture and thermal resistant; cures in 3-5 seconds	LCP, PCB, FPC, Ceramic	43,492	57.7 [8,373]	1,962 [284,578]
9906-AA	•		•	Very low shrinkage; low temp. (80-85°C) heat cure; cold ship/storage	LCP, PCB, PPS, FPC	86,000	36.7 [5,328]	3,983 [578,000]
4. Flexible PCB Reinforcement - Typical requirements: Flexibility; bend resistance								
9008	•			Remains flexible to -40°C; moisture resistant	Kapton®, DAP, Glass, Epoxy Board, Metal	4,500	10 [1,500]	45 [6,500]
9101	•	•		Flexible; moisture and thermal resistant	FR4, Kapton®, Glass	7,000	5.06 [735]	175 [2,550]
Other Applications								
6-621-GEL	•		•	Hard and clear bonds	Metals, Glass, PA, Ceramic	25,000	28 [4,000]	730 [106,000]
9001-E-V3.0	•		•	Low ionic; good electrical properties	PC, Flex Circuit	400	5.17 [750]	17.2 [2,500]
9309-SC	•			Adhesion to various PCB substrates; formulated with See-Cure color-change technology	Leadframe, PCB, Ceramic, Silicon	45,000	22 [3,200]	163 [23,800]



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