

Configuration of Plastic Packages

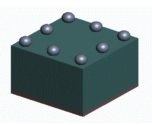
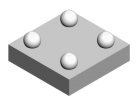
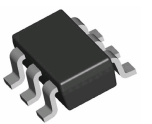
PACKAGING

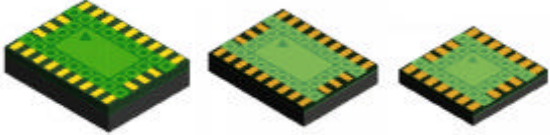
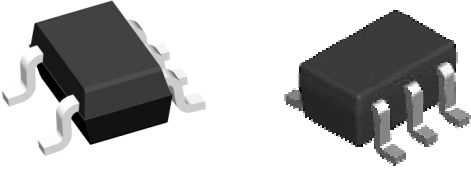
Package
Configuration

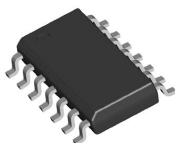
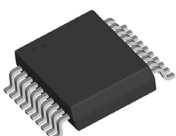
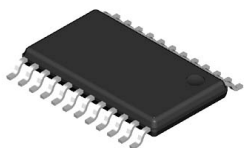
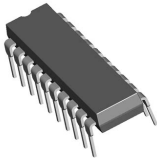
Package Codes

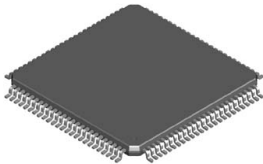
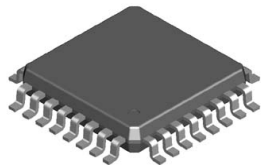
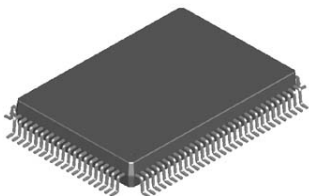
Package
Characteristics

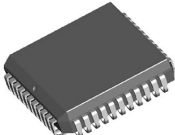
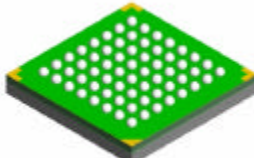
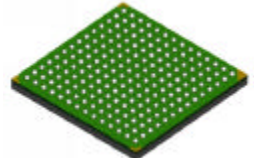
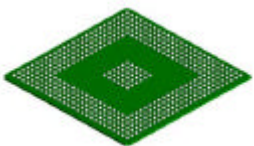


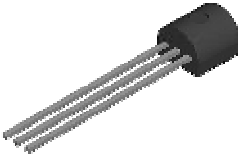
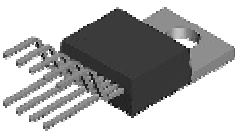
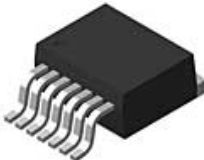
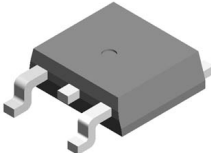
Package Configuration	Package Code	Package Characteristics
Micro SMD		• Surface Mount Package • Epoxy Coating • No under-fill • Standard pick & place equipment useable • Self-alignment during reflow
Thick Small/large bump  	BP BL	• SnPb Eutectic Bump only
Thin Small/large bump  	TP TL	• SnPb Eutectic Bump • Pb-free devices available
Ultra thin Small bump 	UL UP	• SnPb Eutectic Bump • Pb-free devices available
Plastic Small Outline Transistor    SOT23/3Ld SOT23/5Ld SOT23/6Ld	M3 M5 M6 MF	• Surface Mount Package • Gull Wing Lead Configuration • Solder Plate Lead Finish • Molded Package • Pb-free devices available
SOT223   SOT223/4Ld SOT223/5Ld	MP	• Surface Mount Package • Gull Wing Lead Configuration • Solder Plate Lead Finish • Molded Package • Pb-free devices available

Package Configuration	Package Code	Package Characteristics
Leadless Leadframe Package (LLP)		• Surface Mount Package • Solder Plate Contact Plating • Low Thermal Resistance • Reduced Board Area
Pullback LLP 	LD LQ	• SnPb- and Pb-free devices available
No Pullback LLP 	SD SN SP SQ SR SU	• SnPb- and Pb-free devices available
Laminated Chip Scale Package (CSP)  Regular Thin Ultra thin	SLB SLD SLE SL	• Surface Mount Package • JEDEC Reg. No. MO-208 • Board area reduction up to 50% compared to standard SOIC or TSSOP • Thermal resistance enhancement accomplished by thermal vias and thermal pads • Pb-free by design
SC-70  SC-70/5Ld SC-70/6Ld	M7 MG	• Surface Mount Package • Gull Wing Lead Configuration • Solder Plate Lead Finish • Molded Package • Pb-free devices available

Package Configuration	Package Code	Package Characteristics
MINI-SOIC   8 Leads 10 Leads	MM	• Surface Mount Package • Gull Wing Lead Configuration • Solder Plate Lead Finish • Molded Package • Pb-free devices available
Plastic Small Outline Package (SOIC)   Narrow Body Wide Body	M MA MW WM	• Surface Mount Package • Gull Wing Lead Configuration • Solder Plate Lead Finish • Molded Package • EIAJ and JEDEC Package Styles • Footprint Compatible with Ceramic Small Outline Package (SOIC) • Pb-free devices available
Plastic Shrink Small Outline Package (SSOP)   SSOP SSOP-EIAJ	MS MSA MQA MEA MQ ME	• Surface Mount Package • Gull Wing Lead Configuration • Solder Plate Lead Finish • Molded Package • EIAJ and JEDEC Package Styles • Footprint Compatible with Ceramic Small Outline Package (SOIC) • Pb-free devices available
Plastic Thin Shrink Small Outline Packages (TSSOP) 	MXA MXF TM MTC MTD MTE MT MH	• Surface Mount Package • Gull Wing Lead Configuration • Solder Plate Lead Finish • Molded Package • EIAJ Package Styles • Pb-free devices available
Molded Dual-In-Line Package (MDIP) 	N NA	• Through Hole Package • Solder Plate or Solder Dip Lead Finish • Molded Package • Thermal Enhancements Available • Footprint Compatible with Ceramic Sidebraced Dual-In-Line Package (SB and Cerdip) • Pb-free devices available

Package Configuration	Package Code	Package Characteristics
Thin Quad Flat Pack (TQFP) (t = 1.0 mm) 	V(X,X) VE VJ VQ VS VT VU	• Surface Mount Package • Reduced Package Height • Gull Wing Lead Configuration • Solder Plate Lead Finish • Molded Package • Thermal Enhancements Available • High Density Package Application • Pb-free devices available
Low Profile Quad Flat Pack (LQFP) (t = 1.4 mm) 	V(X,X) VB VE VH VJ VN VP VT VV VY	• Surface Mount Package • Reduced Package Height • Thermally enhanced with Heat Spreader • Gull Wing Lead Configuration • Solder Plate Lead Finish • Molded Package • High Density Package Application • Pb-free devices available
Plastic Quad Flat Pack (PQFP) (t > 1.4 mm) 	V(X,X) VC VD VE VF VG VH VJ VK VL VM VO VQ VU	• Surface Mount Package • Gull Wing Lead Configuration • Solder Plate Lead Finish • Molded Package • Thermal Enhancements Available • High Density Package Application • Pb-free devices available

Package Configuration	Package Code	Package Characteristics
Plastic Leaded Chip Carrier (PLCC) 	V VA	• Surface Mount Package • J-Bend Lead Configuration • Solder Plate Lead Finish • Molded Package • Footprint Compatible with Ceramic Quad J-Bend (CQJB) • Thermal Enhancements Available • Pb-free devices available
Fine Pitch Ball Grid Array (FBGA) 	SLC SM	• Surface Mount Package • JEDEC Reg. No. 205 • SnPb Eutectic Bump • Epoxy Coating • No under-fill • Standard pick & place equipment useable • Self-alignment during reflow • Pb-free devices on request
Low Profile Ball Grid Array (LBGA) 	UF	• Surface Mount Package • Reduced Package Height • SnPb Eutectic Bump • Epoxy Coating • No under-fill • Standard pick & place equipment useable • Self-alignment during reflow • Pb-free devices on request
Plastic Ball Grid Array (PBGA) 	U(X,X) UC	• Surface Mount Package • SnPb Solder Balls • No under-fill • Standard pick & place equipment useable • Self-alignment during reflow

Package Configuration	Package Code	Package Characteristics
TO Packages		- Through Hole and Surface Mount Package - Solder Plate Lead Finish - Molded Package - Designed with Heat Sink for High Power Applications (TO-220)
TO-92  TO-220 	TO92: Z ZA TO-220: T TA	Pb-free devices available
TO-263  TO-252 	TO-263: S TS TO-252: DT TD	Pb-free devices available