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- Low Cost Prototype
- Standard Prototype & Production
- Stencil
- PCB Design

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - A

➔ AC	alternate current
➔ ACI	automatic component insertion
➔ ADJ	adjust
➔ AL	aluminum = Aluminium
➔ AMP	amperage / Ampere
➔ AMT	amount
➔ ANAL	analysis / analyze
➔ ANG	angle
➔ ANSI	American National Standards Institute
➔ AOI	automatic optical inspection
➔ APL	applicable
➔ APR	automatic photo tool registration
➔ AQL	acceptance quality level
➔ AR	annular ring
➔ ASAP	as soon as possible
➔ ASSY	assembly
➔ ASTM	American Society for Testing & Materials
➔ AU	gold
➔ AUTH	authorize / authorization
➔ AUX	auxiliary
➔ AVG	average
➔ AW	artwork

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - B

➔	B&T	bow and twist
➔	BBT	bare board test
➔	BD	board
➔	BGA	ball grid array
➔	BK	back
➔	BKPLN	backplane
➔	BKPNL	back panel
➔	BKT	bracket
➔	BLK	black/block
➔	BLNK	blank
➔	BLU	blue
➔	BO	breakout
➔	BOM	bill of material
➔	BP	backplane/back panel
➔	BRD	board
➔	BS	backside
➔	BTM	bottom
➔	BUM	built up method
➔	BUT	built up technology
➔	BVH	buried via hole
➔	BVL	bevel

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - C

→ C	circuitry
→ CAD	computer-aided design
→ CAE	computer-aided engineering
→ CAI	computer-aided instruction
→ CALC	calculate
→ CAM	computer-aided manufacturing
→ CAP	capacitor/capacity
→ CBORE	counter bore
→ CC	conformal coating
→ CCC	current carrying capacity
→ CEM-1	Composite epoxy material. Laminate manufactured with a paper core, outer layers of fibre-glass and epoxy as binding agent. Normally non-inflammable = Composite Epoxy Material.
→ CF	copper foil
→ CHAR	character/characteristic
→ CHG	change
→ CHK	check
→ CI	controlled impedance
→ CIRC	circuit
→ CL	class
→ CLN	clean
→ CLR	clear/clearance
→ CMP	component
→ CNC	computer numerically controlled
→ CNT	count
→ CNTR	center
→ CNTRL	control

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - C

➔ COB	chip on board
➔ CofC	certificate of conformance
➔ COMP	component
➔ COND	conductor/condition
➔ CONF	conformance/conference
➔ CONN	connector
➔ CEM-3	Composite epoxy material. Laminate manufactured with non-woven glass matting as core, outer layers of glass weave and epoxy as binding agent. Normally non-inflammable = Composite Epoxy Material.
➔ CONT	continue/continuity
➔ Cpk	process capability index (range within specification)
➔ CPN	coupon = Coupon
➔ CS	component side
➔ CSK	countersink
➔ CSP	chip size package
➔ CTE	coefficient of thermal expansion
➔ CU	copper
➔ CVR	cover

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - D

➔ DC	direct current / date code / document control
➔ DEC	decimal
➔ DEC	document
➔ DEG	degree
➔ DEP	deposit / deposition
➔ DES	develop-etch-strip / design
➔ DESC	Defense Electronic Supply Center = Defense Electronic Supply Center (USA)
➔ DF	dry film / difunctional
➔ DFM	design for manufacturability
➔ DFT	double-treat foil / design for test
➔ DIA	diameter
➔ DIEL	dielectric
➔ DIM	dimension = Dimension
➔ DIST	distribute / distribution
➔ Dk	dielectric constant
➔ DLA	Defense Logistics Agency = Defense Logistics Agency (USA)
➔ DOD	Department of Defense / Date of Delivery
➔ DP	drill program
➔ DRC	design rule check
➔ DRL	drill
➔ DS	dimensional stability / double-sided
➔ DTF	double-treat foil
➔ DTL	detail = Detail
➔ DTP	diameter
➔ DWG	drawing
➔ DWV	dielectric with standing voltage

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - E

➔ E-AU	electroless gold
➔ EC	each
➔ EE	electrical engineer
➔ EMS	electronics manufacturing services
➔ EMUL	emulsion = Emulsion
➔ ENG	engineer/engage
➔ ENGR	engineer
➔ E-NI	electroless nickel
➔ ENIG	electroless nickel immersion gold
➔ ER	relative dielectric constant
➔ ESD	electro-static discharge/electro-static device
➔ ET	electrical test
➔ EVAL	evaluation/evaluate
➔ EX	example
➔ EXP	expose/exposure/expire
➔ EXT	external/extension

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - F

➔ FR2	Flame Retardant. Laminate manufactured from paper with phenolic binding agent. Flame retardant material has been added
➔ FR3	Flame Retardant. Laminate manufactured from paper with epoxy binding agent. Flame retardant material has been added.
➔ FA	first article
➔ FAB	fabrication/fabricate
➔ FAE	first article report
➔ FAI	first article inspection
➔ FGI	finished goods inventory
➔ FHS	finished hole size
➔ FR4	Flame Retardant. Laminate manufactured from fibre-glass weave with epoxy binding agent. Flame retardant material has been added.
➔ FLT	flat
➔ FM	from
➔ FNL	final
➔ FPW	flexprinted wiring
➔ FREQ	frequency
➔ FS	far side
➔ FUNC	function/functional

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - G

- ➔ **GLS** glass
- ➔ **GND** ground
- ➔ **GRN** green

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - H

➔	HAL	hot air leveling
➔	HARB	height aspect ratio boards
➔	HASL	hot air solder levelling
➔	HDIS	high density interconnection system
➔	HL	hole
➔	HLS	holes
➔	HMT	Hole mounting technology. Leaded components are mounted by inserting (and soldering) their leads through holes in the PCB
➔	HRC	high resin content
➔	HTE	high tensile elongation

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - I

➔ IEC	International Electro-technical Commission
➔ IJ	Inkjet
➔ IJP	Inkjet Printing
➔ IL	inner layer
➔ IL	insulation resistance/infrared
➔ IMG	image
➔ IMM	immersion
➔ IMMAU	immersion gold
➔ INSP	inspect/inspection
➔ INT	internal
➔ INV	inventory
➔ IPC	Institute for Interconnecting and Packaging Electronic Circuits =
➔ IS	inside/information system
➔ ISS	issue
➔ ITRI	Interconnection Technology Research Institute
➔ IVH	Interstitial Via Hole (Board)

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - J

- ➔ **JIT** Justintime
- ➔ **JS** Jump Scoring

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - K

➔ **KF** kapton film

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - L

➔ LAM	laminate/lamination
➔ LCC	leadless chip carrier
➔ LCCC	leadless ceramic chip carrier
➔ LDI	Laser Direct Imaging
➔ LDP	Laser Direct Patterning
➔ LDS	Laser Direct Structuring
➔ LEG	legend
➔ LIGA	Lithography and Galvanoforming (technique)
➔ LOC	locate/location
➔ LPI	liquid photoimageable
➔ LPISR	liquid photoimageable solder resist
➔ LRC	low resin content
➔ LSR	laser
➔ LW	line width
➔ LYR	layer

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - M

➔	MATL	material = Material
➔	MBV	micro blind via
➔	ME	mechanical engineer
➔	MF	multifunctional
➔	MFG	manufacturing
➔	MFR	manufacturer
➔	MGR	manager = Manager
➔	MIN	minimum = Minimum
➔	MIP	manufacturing instruction procedure / multiple inline package
➔	MIR	moisture & insulation resistance
➔	ML	multilayer
➔	MLB	multilayer board
➔	MMC	maximum material condition
➔	MRB	material review board
➔	MRP	manufacturing resource planning
➔	MSG	message
➔	MSTR	master
➔	MTL	metal
➔	MV	micro via
➔	MVH	micro via hole

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - N

➔	NA	not applicable
➔	NC	numerically controlled
➔	NCM	non-conforming
➔	NEG	negative
➔	NEMA	National Electrical Manufacturer 's Association
➔	NF	non-functional
➔	NHS	nominal hole size
➔	NI	nickel = Nickel
➔	Ni/P	nickel / phosphor
➔	NOM	nominal
➔	NP	non-plated
➔	NPT	non-plated thru
➔	NPTH	non-plated-thru hole
➔	NSTD	non-standard
➔	NTS	not-to-scale

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - O

➔ OA	overall
➔ OAI	o.k. as is
➔ OD	outer diameter
➔ OEM	original equipment manufacturer
➔ OL	outer layer
➔ ORG	organize/organization
➔ ORIG	original
➔ OS	optical sight/Fiducial marks
➔ OSI	on-screen inspection
➔ OSP	organic solderability preservative (anti-oxidant coating)
➔ OZ	ounce

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - P

➔ PAC	pad array carrier
➔ Pb	lead
➔ PbSn	lead-tin
➔ PC	printed circuit/production control
➔ PCB	printed circuit board
➔ PCT	pressure cookertesting
➔ PE	product engineer/process engineer
➔ PEB	post exposure bake
➔ PEP	post-etch punch
➔ PFI	polymer film interconnect
➔ PID	photoimageable dielectric
➔ PIH	pin in hole
➔ PL	parts list
➔ PLC	place
➔ PLCS	places
➔ PLN	plane/plan
➔ PLNG	planning
➔ PLNR	planner
➔ PLT	plate
➔ PLTD	plated
➔ PM	preventive maintenance
➔ PNL	panel
➔ POS	positive
➔ PP	prepreg
➔ PQFP	plastic quad flat package
➔ PROG	program

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - P

➔ PSF	per square foot
➔ PSI	per square inch
➔ PT	perfect test/point
➔ PTH	plated-thru hole
➔ PTS	points
➔ PWA	printed wiring assembly
➔ PWB	printed wiring board

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - Q

➔ QA	quality assurance
➔ QC	quality control
➔ QE	quality engineer
➔ QFP	quad flat pack
➔ QPL	quality product level
➔ QTA	quick-turn around
➔ QUAL	qualification/qualify

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - R

➔ RAD	radius/radii
➔ RCC	resin coated copper foil
➔ REF	reference
➔ REG	registration/register
➔ REIN	reinforce
➔ REL	release
➔ REM	remove
➔ REP	representative/represent
➔ REPL	replace
➔ REQ	request/require
➔ RES	resistor
➔ RFQ	request for quotation
➔ RMK	remake
➔ RP	rout program
➔ RPR	repair
➔ RPT	report
➔ RT	rout
➔ RTF	reverse-treat foil
➔ RWK	rework

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - S

→ SBC	solderball connect
→ SBU	sequential built-up
→ Sn	Tin
→ SN	serial number
→ SCRN	screen
→ SP	space
→ SQ	square
→ SEP	separate
→ SECT	section
→ SHT	sheet
→ SIA	Semiconductor Industry Association
→ SIG	signal
→ SIP	single in-line package
→ SIR	surface insulation resistance (resistivity)
→ SLD	solder
→ SLT	slot
→ SMC	surface-mount component
→ SMD	surface-mount device
→ SMP	surface-mount pad
→ SMT	surface-mount technology
→ SMOBC	solder mask over bare copper
→ SMOGB	solder mask over gold body
→ SPC	statistical process control
→ SPEC	specification
→ STD	standard
→ SS	solder side

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - S

➔ SSD	Solid Solder Deposit
➔ STK	stock/stack
➔ SYM	symbol
➔ SRC	Semiconductor Research Consortium
➔ S&R	scrap and rework
➔ SLD	solder
➔ SQFT	square foot
➔ SQIN	square inch

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - T

➔ TF	tetra functional
➔ Tg	glass transition temperature
➔ TH	tooling hole(s)
➔ TP	true position
➔ TR	transfer
➔ TAB	tape-automatic bonding
➔ TDR	time domain reflectometer
➔ TGP	true grid position
➔ TGT	target
➔ TF	tetra functional
➔ Tg	glass transition temperature
➔ TH	tooling hole(s)
➔ TP	true position
➔ TR	transfer
➔ TAB	tape-automatic bonding
➔ TDR	time domain reflectometer
➔ TGP	true grid position
➔ TGT	target

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - U

- ➔ **UL** Underwriter´s Laboratories Inc.
- ➔ **UAI** use as it
- ➔ **UOS** unless otherwise specified

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - V



V

voltage = Volt

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - W

- ➔ **W** width
- ➔ **W&T** warp and twist
- ➔ **WB** wire bonding
- ➔ **WHT** white
- ➔ **WEEE** waste electronic and electrical equipment

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - X

➔ **XFP** extra fine pitch

ABBREVIATIONS FOR PRINTED CIRCUIT BOARDS

Alphabet - Z

- ➔ **ZDS** zero defect strategy
- ➔ **APR** zero defect program

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