## Summary of Preferred Microcircuits


| Description | Refer to Page No. |
|---|---|
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## MIL-M-38510 Part Number Explanation (Note 1)

Part Number Explanation:

| M38510 | /or M, D, R, H | XXX | XX | X | X | X |
|---|---|---|---|---|---|---|
| Military Designator | Radiation Hardness Assurance (RHA) Designator<br>M = $3 \times 10^3$ RAD (Si)<br>D = $1 \times 10^4$ RAD (Si)<br>R = $1 \times 10^5$ RAD (Si)<br>H = $1 \times 10^6$ RAD (Si) | Detailed Specification<br>Establishes detail requirements and specific electrical characteristics of the microcircuits. | Device Type<br>Determines the specific circuit. | Device Class<br>S = Grade 1<br>B = Grade 2 | Case Outline<br>Defines package type. | Lead Finish<br>A - Hot solder dip<br>B - Tin Plate<br>C - Gold Plate |

## MIL-I-38535 SMD One-Part-One Part Number Explanation (Note 1)

Part Number Explanation:

| 5962 | /or M, D, R, H | XXXXX | XX | X | X | X |
|---|---|---|---|---|---|---|
| Military Designator | Radiation Hardness Assurance Designator<br>M = $3 \times 10^3$ RAD (Si)<br>D = $1 \times 10^4$ RAD (Si)<br>R = $1 \times 10^5$ RAD (Si)<br>H = $1 \times 10^6$ RAD (Si) | Drawing Designator<br>Establishes detail requirements and specific electrical characteristics of the microcircuits. | Device Type<br>Determines the specific circuit. | Device Class<br>V = Grade 1<br>Q = Grade 2 | Case Outline<br>Defines package type. | Lead Finish<br>A - Hot solder dip<br>B - Tin Plate<br>C - Gold Plate |

See notes on page 10-19.

## Low Power Schottky: 54LS Series (Notes 2, 3) (Page 1 of 2)

| Generic Number | MIL-M-38510 | Circuit Description |
|---|---|---|
| **Gates** | | |
| 54LS00 | /30001* | QUAD 2-INPUT, NAND |
| 54LS03 | /30002* | QUAD 2-IN, NAND, OPEN COLLECTOR |
| 54LS04 | /30003* | HEX INVERTER |
| 54LS05 | /30004* | HEX INVERTER OPEN-COLLECTOR O/P |
| 54LS10 | /30005* | TRIPLE 3-INPUT NAND |
| 54LS20 | /30007* | DUAL 4-INPUT NAND |
| 54LS22 | /30008 | 4-INPUT OPEN COLLECTOR NAND |
| 54LS02 | /30301 | QUAD 2-INPUT NOR |
| 54LS27 | /30302 | TRIPLE 3-INPUT NOR |
| 54LS51 | /30401 | DUAL 2-WIDE AND-OR-INVERTER |
| 54LS32 | /30501 | QUAD 2-INPUT OR |
| 54LS86 | /30502* | QUAD 2-INPUT X-OR |
| 54LS08 | /31004 | QUAD 2-INPUT AND |
| 54LS09 | /31005 | 2-INPUT, OPEN COLLECTOR AND |
| 54LS11 | /31001* | TRIPLE 3-INPUT AND |
| 54LS21 | /31003* | DUAL 4-INPUT AND |
| 54LS26 | /32102 | 2-INPUT OPEN COLLECTOR. NAND |
| **Buffers/Drivers** | | |
| 54LS365 | /32201 | HEX, COMMON ENABLE, 3-STATE |
| 54LS366 | /32202 | HEX, INV, COMMON ENABLE, 3-STATE |
| 54LS367 | /32203 | HEX, 4-BIT/2-BIT, NONINV, 3-STATE |
| 54LS368 | /32204 | HEX, 4-BIT/2-BIT, INVERTING., 3-STATE |
| 54LS125A | /32301 | QUAD , NONINV 3- STATE |
| 54LS126 | /32302 | QUAD , NONINV 3- STATE |
| 54LS240 | /32401 | OCTAL , INVERTER, 3- STATE |
| 54LS245 | /32803 | OCTAL, BUS TRANSCEIVER, 3-STATE |

| Generic Number | MIL-M-38510 | Circuit Description |
|---|---|---|
| **Buffers/Drivers** | | |
| 54LS241 | /32402 | OCTAL , NONINV , 3- STATE OUTPUTS |
| 54LS244 | /32403* | OCTAL , NONINV , 3- STATE OUTPUTS |
| 54LS365 | /32201 | HEX , NONINV , 3-STATE OUTPUTS |
| 54LS366 | /32202 | HEX , INVERTER , 3-STATE OUTPUTS |
| 54LS367 | /32203 | HEX , NONINV , 3-STATE OUTPUTS |
| 54LS38 | /30203 | QUAD, 2-INPUT NAND OPEN-COLL. |
| 54LS541 | /32405 | OCTAL , NONINV , 3-STATE OUTPUTS |
| **Latches** | | |
| 54LS75 | /31601 | D-TYPE , 4-BIT BISTABLE |
| 54LS279 | /31602 | RS, QUAD |
| 54LS259 | /31603 | D-TYPE , OCTAL , ADDRESSABLE |
| 54LS377 | /32504 | D-TYPE , OCTAL |
| 54LS373 | /32502 | D-TYPE , OCTAL, TRANSPARENT |
| **Flip-Flops** | | |
| 54LS74A | /30102 | D-TYPE , DUAL |
| 54LS112 | /30103 | JK , DUAL WITH RESET/CLEAR, NEG. |
| 54LS113 | /30104 | JK , DUAL WITH RESET/ CLEAR |
| 54LS174 | /30106 | D-TYPE , HEX |
| 54LS175 | /30107 | D-TYPE, QUAD |
| 54LS109 | /30109 | JK , DUAL WITH RESET/CLEAR, POS. |
| 54LS76A | /30110 | JK , DUAL , NEGATIVE EDG-TRIG |
| 54LS273 | /32501 | D-TYPE , OCTAL WITH CLEAR |
| 54LS374 | /32503 | D-TYPE , OCTAL , 3-STATE OUTPUTS |
| 54LS123 | /31401 | MONOSTABLE, DUAL , RETRIG. |
| 54LS221 | /31402 | MONOSTABLE, DUAL , RETRIG. |
| 54LS173A | /36101 | D-TYPE , QUAD |

See notes on page 10-19.

## Low Power Schottky: 54LS Series (Notes 2, 3) (Page 2 of 2)

| Generic Number | MIL-M-38510 | Circuit Description |
|---|---|---|
| **Combinational Gates** | | |
| 54LS138 | /30701* | 3-LINE-TO-8-LINE DECODER |
| 54LS139 | /30702 | DUAL 2-LINE-TO-4-LINE DECODER |
| 54LS42 | /30703* | BCD-TO-7-SEGMENT DECODER |
| 54LS151 | /30901 | 8-IN PUT DATA SELECT/MULTIPLEXER |
| 54LS153 | /30902* | DUAL 4-INPUT DATA SELECT/MUX |
| 54LS157 | /30903* | QUAD 2-INPUT DATA SELECT/MUXER |
| 54LS158 | /30904* | QUAD 2-INPUT INV. OUTPUTS MUX |
| 54LS251 | /30905* | 8-BIT 3-STATE, DATA SELECT/MUX |
| 54LS257B | /30906 | 2-INPUT 3- STATE DATA SELECT/MUX |
| 54LS258B | /30907 | 2-INPUT 3- STATE DATA SELECT/MUX |
| 54LS253 | /30908* | 4-INPUT 3- STATE DATA SELECT/MUX |
| 54LS85 | /31101 | 4-BIT MAGNITUDE COMPARATOR |
| 54LS83A | /31201 | 4-BIT FULL ADDER, FAST CARRY |
| 54LS283 | /31202 | 4-BIT FULL ADDER , FAST CARRY |
| 54LS280 | /32901 | 9-BIT PARITY GENERATOR/CHECKER |
| 54LS148 | /36001 | 8-LINE-TO-3-LINE PRIORITY ENCODER |
| 54LS348 | /36002 | 8-TO-3-LINE PRIORITY ENCODER |

See notes on page 10-19.

| Generic Number | MIL-M-38510 | Circuit Description |
|---|---|---|
| **Shift Registers** | | |
| 54LS194A | /30601* | 4- BIT BIDIRECTIONAL |
| 54LS195A | /30602 | 4- BIT PARALLEL ACCESS |
| 54LS95B | /30603 | 4-BIT PARALLELEL ACCESS |
| 54LS96 | /30604 | 5-BIT SHIFT REGISTER |
| 54LS164 | /30605* | 8-BIT PARALLEL-OUT, SERIAL-IN |
| 54LS295B | /30606 | 4-BIT BIDIRECTIONAL |
| 54LS395A | /30607 | 4-BIT UNIVERSAL |
| 54LS165A | /30608 | 8-BIT PARALLEL-IN, SERIAL-OUT |
| 54LS166 | /30609 | 8-BIT PARALLEL-IN, SERIAL-OUT |
| 54LS670 | /31901 | 4 X 4 , 3-STATE OUTPUTS REGISTER FILE |
| **Counters** | | |
| 54LS90 | /31501 | 4-BIT DECADE |
| 54LS93 | /31502 | 4-BIT DECADE |
| 54LS160A | /31503 | 4-BIT SYNC DECADE |
| 54LS161 | /31504 | 4-BIT SYNC BINARY, ASYNC RESET |
| 54LS193 | /31508 | 4-BIT SYNC BIN UP/DOWN |
| 54LS191 | /31509 | 4-BIT SYNC BIN UP/DOWN |
| 54LS92 | /31510 | DIVIDE-BY-12 |
| 54LS163A | /31512 | 4-BIT SYNC BINARY, SYNC RESET |
| 54LS197 | /32002 | PRESET 50/30 MHZ BINARY |
| 54LS290 | /32003 | 4-BIT DECADE |
| 54LS293 | /32004 | 4-BIT BINARY |
| 54LS390 | /32701 | DUAL 4-BIT A&B I/P DECADE |
| 54LS393 | /32702 | DUAL 4-BIT BINARY |

## Advanced Low Power Schottky: 54ALS Series

| Generic Number | MIL-M-38510 | Circuit Description |
|---|---|---|
| **Gates/Combinational Gates** | | |
| 54ALS00A | /37001 | QUAD 2-INPUT NAND |
| 54ALS10 | /37002 | TRIPLE 3-INPUT NAND |
| 54ALS20A | /37003 | DUAL 4-INPUT NAND |
| 54ALS30A | /37004 | 8-INPUT NAND |
| 54AL133 | /37005 | 13-INPUT NAND |
| 54ALS04B | /37006 | HEX INVERTER |
| 54ALS02 | /37301 | QUAD 2-INPUT NOR |
| 54ALS27 | /37302 | TRIPLE 3-INPUT NOR |
| 54ALS08 | /37401 | QUAD 2-INPUT AND |
| 54ALS11 | /37402 | TRIPLE 3-INPUT AND |
| 54ALS32 | /37501 | QUAD 2-INPUT OR |
| 54ALS1000A | /38401 | QUAD 2-INPUT NAND |
| 54ALS1002 | /38402 | QUAD 2-INPUT NOR |
| 54ALS1020 | /38407 | DUAL 4-INPUT NAND |
| 54ALS138 | /37701 | 3-TO-8-LINE DECODER/DEMUX |
| **Buffers/Drivers** | | |
| 54ALS1034 | /38411 | HEX , NONINV BUFFER/DRIVER |
| 54ALS240A | /38301 | OCTAL , BUFFER, INV, , 3-STATE OUTPUT |
| 54ALS241 | /38302 | OCTAL , BUFFER, NONINV, 3-STATE OUTPUT |
| 54ALS244B | /38303 | OCTAL , BUFFER, NONINV, 3-STATE OUTPUT |
| **Flip-Flops** | | |
| 54ALS109A | /37102 | JK , DUAL , PRESET(ACTIVE HIGH) |
| 54ALS112A | /37103 | JK , DUAL , PRESET(ACTIVE LOW) |
| 54ALS174 | /37201 | D-TYPE , HEX , WITH CLEAR |
| 54ALS175 | /37202 | D-TYPE , QUAD , WITH CLEAR |
| 54ALS373 | /37203 | D-TYPE , OCTAL , 3-STATE OUTPUTS |
| 54ALS374 | /37204 | D-TYPE , OCTAL , EDGE-TRIGGER |
| 54ALS573 | /38201 | D-TYPE ,OCTAL , 3--STATE OUTPUTS |
| 54ALS574A | /37104 | D-TYPE , OCTAL |
| 54ALS74A | /37101 | D-TYPE, DUAL -POSITIVE TRIGGER |
| **Counters** | | |
| 54ALS161B | /38001 | 4-BIT SYNC, BINARY |
| 54ALS163B | /38002 | 4-BIT SYNC, CLEAR BINARY |
| 54ALS169B | /38003 | 4-BIT SYNC, UP/DOWN BINARY |

## Digital CMOS: 4000B Series (Notes 2, 3)

| Generic Number | MIL-M-38510 | Circuit Description |
|---|---|---|
| **Gates/Combinational Gates** | | |
| 4001B | H05252* | QUAD, 2-INPUT NOR |
| 4002B | H05253* | DUAL, 4-INPUT NOR |
| 4025B | H05254* | TRIPLE, 3-INPUT NOR |
| 4011B | H05051* | QUAD, 2-INPUT NAND |
| 4012B | H05052* | DUAL, 4-INPUT NAND |
| 4023B | H05053* | TRIPLE, 3-INPUT NAND |
| 4007UB | H05351* | DUAL, COMPLEMENTARY PAIR, INVERTER |
| 4019B | H05352* | QUAD, AND-OR SELECT |
| 4070B | H17203* | QUAD, 2-INPUT X-OR |
| 4071B | H17101* | QUAD, 2-INPUT OR |
| 4072B | H17102* | DUAL, 4-INPUT OR |
| 4075B | H17103* | TRIPLE, 3-INPUT OR |
| 4081B | H17001* | QUAD, 2-INPUT AND |
| 4082B | R17002 | DUAL, 4-INPUT AND |
| 4073B | R17003 | TRIPLE, 3-INPUT AND |
| 4077B | R17204 | QUAD, 2-INPUT X-NOR |
| 4085B | H17201* | DUAL, AND-OR-INVERT, 2-WIDE, 2-INPUT |
| 4086B | H17202* | DUAL, AND-OR-INVERT, 4-WIDE, 2-INPUT |
| 4049UB | H05553* | HEX BUFFER, INVERTING |
| 4050B | H05554* | HEX BUFFER |
| 4041UB | R05555 | QUAD, TRUE COMPLEMENT BUFFER |
| 4069UB | H17401* | HEX INVERTER |
| 4502B | R17403* | HEX INVERTER/BUFFER |
| 4028B | R05951* | BCD-TO-DECIMAL DECODER |
| 4066B | H05852* | QUAD, BILATERAL SWITCH |
| **Flip-Flops** | | |
| 4098B | R17504 | MONOSTABL MULTIVIBRATOR, DUAL |
| 4099B | R17601 | D-TYPE , OCTAL LATCH, |
| 4013B | H05151* | D-TYPE, DUAL, EDGE-TRIGGERED |
| 4027B | H05152* | JK, DUAL |
| **Sequential Registers/Counters** | | |
| 4008B | R05451* | 4-BIT FULL ADDER |
| 4017B | H05651* | DECADE COUNTER/DIVIDER |
| 4020B | H05653* | BIN COUNT ER, 14-STAGE CARRY |
| 4022B | H05654* | OCTAL COUNTER W/8 DECODED OUTPUT |
| 4024B | H05655* | 7-STAGE RIPPLE CARRY COUNT/DIVIDE |
| 4014B | H05752* | 8-BIT SERIAL/PARALLEL REGISTER |
| 4015B | H05753* | DUAL, SERIAL IN, PARALLEL OUT |
| 4021B | H05754* | 8-BIT ASYNC PARALLEL IN/SERIAL OUT |

See notes on page 10-19.

## Advanced Schottky: 54F Series (Notes 2, 3)

| Generic Number | MIL-M-38510 | Circuit Description |
|---|---|---|
| **Gates** | | |
| 54F00 | /33001* | QUAD, 2-INPUT NAND |
| 54F04 | /33002* | HEX, INVERTER |
| 54F10 | /33003* | TRIPLE, 3-INPUT NAND |
| 54F20 | /33004* | DUAL, 4-INPUT NAND |
| 54F02 | /33301* | QUAD, 2-INPUT NOR |
| 54F64 | /33401* | 4-2-3-2 INPUT AND-/OR-INVERTER |
| 54F08 | /34001* | QUAD, 2-INPUT AND |
| 54F11 | /34002* | QUAD, 2-INPUT AND |
| 54F32 | /33501* | QUAD, 2-INPUT OR |
| 54F86 | /34501* | QUAD, 2-INPUT EXCLUSIVE-OR |
| **Buffers/Drivers** | | |
| 54F240 | /33201 | OCTAL, INV, 3-STATE OUTPUTS |
| 54F241 | /33202* | OCTAL, NONINV, 3-STATE OUTPUTS |
| 54F244 | /33203* | OCTAL, NONINV, 3-STATE OUTPUTS |
| 54F245 | /34803* | OCTAL, NONINV, BUS TRANSCEIVER |
| 54F365 | /35101 | HEX , NONINV, 3-STATE OUTPUTS |
| **Flip-Flops** | | |
| 54F074 | /34101* | D-TYPE, DUAL |
| 54F109 | /34102 | JK , DUAL |
| 54F175 | /34104 | D-TYPE, QUAD |
| 54F374 | /34105 | D-TYPE, OCTAL 3-STATE OUTPUTS |
| 54F534 | /34106 | D-TYPE, OCTAL 3-STATE OUTPUTS |
| 54F174 | /34107* | D-TYPE, HEX |
| 54F373 | /34601* | D-TYPE, OCTAL , 3-STATE OUTPUTS |
| 54F533 | /34602 | D-TYPE ,OCTAL 3-STATE OUTPUTS |
| 54F563 | /34603 | D-TYPE , OCTAL ,3-STATE OUTPUTS |
| 54F573 | /34604 | D-TYPE , OCTAL 3-STATE OUTPUTS |

| Generic Number | MIL-M-38510 | Circuit Description |
|---|---|---|
| **Combinational Gates** | | |
| 54F138 | /33701* | 3-TO-8-LINE DECODER |
| 54F139 | /33702* | DUAL, 2-LINE-TO-4-LINE DECODER |
| 54F151A | /33901* | 8-INPUT DATA SELECT, MULTIPLEXER |
| 54F153 | /33902* | DUAL, 4-INPUT DATA SELECT, MUX |
| 54F157A | /33903* | QUAD, 2-INPUT DATA SELECT, MUX |
| 54F158A | /33904* | QUAD, 2-INPUT DATA SELECT, MUX |
| 54F181 | /33801 | 4-BIT ALU GENERATOR |
| 54F182 | /33802 | LOOK AHEAD CARRY GENERATOR |
| 54F251A | /33905* | 8-INPUT , 3-STATE OUTPUTS, MUX |
| 54F253 | /33908* | DUAL, 4-INPUT, 3-STATE OUTPUTS, MUX |
| 54F257A | /33906* | QUAD, 2-INPUT , 3-STATE OUTPUTS, MUX |
| 54F258A | /33907* | QUAD, 2-INPUT , 3-STATE OUTPUTS, MUX |
| 54F280 | /34901* | 9-BIT PARITY GENERATOR/CHECKER |
| 54F283 | /34201* | 4-BIT FULL ADDER |
| 54F521 | /34701* | 8-BIT IDENTITY COMPARATOR |
| 54F398 | /35001* | QUAD , 2-INPUT WITH STORAGE MUX |
| **Counters/Shift Registers** | | |
| 54F160A | /34401* | 4-BIT SYNC BCD DECADE COUNTER |
| 54F161A | /34301* | 4-BIT SYNC BINARY COUNTER |
| 54F163A | /34302* | 4-BIT SYNC BINARY COUNTER |
| 54F192 | /34404 | 4-BIT SYNC UP/DOWN DECADE COUNTER |
| 54F193 | /34304 | 4-BIT SYNC UP/DOWN BINARY COUNTER |
| 54F194 | /33601* | 4-BIT BIDIRECT. UNIVERSAL SHIFT REGISTER |

See notes on page 10-19.

## CMOS High-Speed: 54HC/HCT Series (Notes 2, 3)

| Generic Number | MIL-M-38510 | Circuit Description |
|---|---|---|
| **Gates** | | |
| 54HC00 | /65001 | QUAD, 2-INPUT NAND |
| 54HC10 | /65002 | TRIPLE, 3-INPUT NAND |
| 54HC20 | /65003 | DUAL, 4-INPUT NAND |
| 54HC30 | /65004 | 8-INPUT NAND |
| 54HC02 | /65101 | QUAD, 2-INPUT NOR |
| 54HC27 | /65102 | TRIPLE, 3-INPUT NOR |
| 54HC266 | /65103 | QUAD, 2- INPUT EXCLUSIVE- NOR |
| 54HC4002 | /65104 | DUAL, 4-INPUT NOR |
| 54HCT04 | /65751 | HEX, INVERTER (TTL) |
| 54HC04 | /65701 | HEX, INVERTER |
| 54HC14 | /65702 | SCHMITCH- TRIGGER HEX INVERTER |
| 54HC08 | /65203 | QUAD, 2-INPUT AND |
| 54HC11 | /65204 | TRIPLE, 3-INPUT AND |
| 54HC32 | /65201 | QUAD, 2-INPUT OR |
| 54HC86 | /65202 | QUAD, 2-INPUT X-OR |
| **Buffers/Drivers** | | |
| 54HC245 | /65503 | OCTAL, XSCEIVER, NONINV., 3-STATE |
| 54HCT245 | /65553 | OCTAL, XSCEIVER, NONINV., 3-ST (TTL) |
| 54HCT240 | /65753 | OCTAL, INV. WITH 3-STATE OUTPUTS |
| 54HC240 | /65703 | OCTAL, INV. WITH 3- STATE OUTPUTS |
| 54HC365 | /65706 | HEX, NONINV WITH 3- STATE OUTPUTS |
| 54HC367 | /65708 | HEX, NONINV WITH 3- STATE OUTPUTS |
| 54HC368 | /65709 | HEX, INV, WITH 3- STATE OUTPUTS |
| 54HC540 | /65710 | OCTAL, INV, 3- STATE OUTPUTS |
| 54HC541 | /65711 | OCTAL, NONINV, WITH 3-STATE OUTPUTS |
| 54HCT244 | /65755 | OCTAL, NONINV, 3-STATE OUTPUTS (TTL) |

| Generic Number | MIL-M-38510 | Circuit Description |
|---|---|---|
| **Flip-Flops** | | |
| 54HC74 | /65302 | D-TYPE , DUAL , WITH PRESET AND CLEAR |
| 54HC109 | /65304 | JK, DUAL |
| 54HC112 | /65305 | JK, DUAL WITH R/S |
| 54HC173 | /65306 | D-TYPE, QUAD WITH 3-STATE OUTPUTS |
| 54HC174 | /65307 | D-TYPE, HEX WITH CLEAR |
| 54HC175 | /65308 | D-TYPE, QUAD |
| 54HCT74 | /65352 | D-TYPE, DUAL R/C (TTL) |
| 54HC273 | /65601 | D-TYPE, OCTAL WITH CLEAR |
| 54HC574 | /65604 | D-TYPE, OCTAL WITH 3-STATE OUTPUTS |
| 54HCT374 | /65652 | D-TYPE, OCTAL (TTL), NON-INVERTING |
| **Latches** | | |
| 54HC259 | /65402 | D-TYPE, OCTAL ADDRESSABLE |
| 54HC373 | /65403 | D-TYPE, OCTAL WITH 3-STATE OUTPUTS |
| 54HC573 | /65406 | D-TYPE, OCTAL WITH 3-STATE OUTPUTS |
| 54HCT373 | /65453 | D-TYPE, OCTAL (TTL), TRANSPARENT |
| **Combinational Gates** | | |
| 54HCT138 | /65852 | 3-LINE-TO-8-LINE DECODER (TTL) |
| 54HC138 | /65802 | 3-LINE-TO-8-LINE DECODER |
| 54HC139 | /65803 | DUAL, 2 TO 4 LINE DECODER |
| **Counters** | | |
| 54HC161 | /66302 | 4-BIT BINARY COUNTER, ASYNC RESET |
| 54HC163 | /66304 | 4-BIT BINARY COUNTER, SYNC RESET |
| 54HC393 | /66309 | DUAL, 4-BIT BINARY COUNTER |

See notes on page 10-19.

## Advanced CMOS Technology: 54AC/ACT Series (Notes 2, 3)

| Generic Number | MIL-M-38510 | Circuit Description |
|---|---|---|
| **Gates** | | |
| 54AC00 | R75001* | QUAD, 2-INPUT NAND |
| 54AC10 | R75002* | TRIPLE, 3-INPUT NAND |
| 54AC20 | R75003* | DUAL, 4-INPUT NAND |
| 54AC02 | R75101* | QUAD, 2-INPUT NOR |
| 54AC04 | R75701* | HEX INVERTER |
| 54AC14 | R75702* | SCHMITT TRIGGER, HEX INVERTER |
| 54AC08 | R75203* | QUAD, 2-INPUT AND |
| 54AC11 | R75204* | TRIPLE, 3-INPUT AND |
| 54AC32 | R75201* | QUAD, 2-INPUT OR |
| 54AC86 | R75202* | QUAD, 2-INPUT X-OR |
| **Buffers/Drivers** | | |
| 54AC240 | R75703 | OCTAL, INV, 3- STATE OUTPUTS |
| 54AC241 | R75704* | OCTAL, NONIN, 3- STATE OUTPUTS |
| 54AC244 | R75705* | OCTAL, NONINV, 3- STATE OUTPUTS |
| 54AC245 | R75503* | OCTAL, BUS TRANSCEIVER , BIDIRECTIONAL, 3-STATE OUTPUTS |

| Generic Number | MIL-M-38510 | Circuit Description |
|---|---|---|
| **Combinational Gates** | | |
| 54AC138 | R75802* | 3-LINE-TO-8-LINE DECODER/DEMUX |
| 54AC139 | R75803* | DUAL, 2-TO-4 DECODER/ DEMUX |
| 54AC151 | /76201* | 8-INPUT MULTIPLEXER |
| 54AC153 | /76202* | DUAL, 4-INPUT MULITIPLEXER |
| 54AC157 | /76203* | QUAD, 2-INPUT MULTIPLEXER |
| **Shift Registers** | | |
| 54AC299 | /76506* | 8-BIT UNIVERSAL PARALLEL |
| **Flip-Flops** | | |
| 54AC273 | /75601* | D-TYPE , OCTAL WITH CLEAR |
| 54AC377 | /75603* | D-TYPE, OCTAL, CLOCK ENABLE |
| 54AC373 | R75403* | D-TYPE , OCTAL, 3-STATE OUTPUTS |
| 54AC74 | /75302* | D-TYPE, DUAL, POSITIVE EDGE- TRIGGER |
| 54AC574 | /75604* | D-TYPE, OCTAL, 3-STATE OUTPUTS |
| 54AC374 | /75606* | D-TYPE , OCTAL, 3-STATE OUTPUTS |
| 54AC109 | /75304* | JK, DUAL, POSITIVE EDGE-TRIGGER |

See notes on page 10-19.

| Generic Number | 5962 | Circuit Description |
|---|---|---|
| **Comparators** | | |
| 54AC520 | -90916* | 8-BIT MAGNITUDE COMPARATOR, PULL-UP RESISTOR |
| 54AC521 | R90985* | 8-BIT MAGNITUDE COMPARATOR |
| **Gates** | | |
| 54ACT00 | R8769901* | QUAD 2-INPUT NAND |
| **Buffers/Drivers** | | |
| 54ACT240 | R8775901 | OCTAL, INV, 3- STATE OUTPUTS |
| 54ACT244 | R8776001* | OCTAL, NON-INV, 3- STATE OUTPUTS |
| 54ACT245 | R8766301* | OCTAL, BIDIRECTIONAL XCEIVER, 3-STATE |
| **Combinational Gates** | | |
| 54ACT138 | -8755401* | 3-LINE-TO-8-LINE DECODER |
| 54ACT151 | -8875601* | 8-INPUT MULTIPLEXER |
| **Flip-Flops** | | |
| 54ACT377 | -8769701* | D-TYPE, OCTAL, CLOCK ENABLE |
| 54ACT74 | -8752501* | D-TYPE, DUAL, POSITIVE EDGE-TRIGGER |
| 54ACT574 | -8960101* | D-TYPE, OCTAL, 3-STATE OUTPUTS |

## Bipolar and MOS Memories (Notes 2,3)

| Generic Number | MIL-M-38510 | Circuit Description Size Access Time |
|---|---|---|
| **Bipolar PROMs** | | |
| 82S185 | /20902 | 2K X 4, 125 NS, 3-STATE OUTPUT |
| 82S191 | /21002 | 2K X 8, 125 NS, 3-STATE OUTPUT |
| **MOS SRAMs** | | |
| 2147 | /28903 | 4K X 1 , 55 NS , 3-STATE OUTPUT |
| 2148 | /28904 | 1K X 4 , 55 NS, 3-STATE OUTPUT |
| 2147 | /28901 | 4K X 1, 35 NS |
| 2148 | /28902 | 1K X 4, 35 NS |
| 2147 | /23801 | 4K X 1 , 85 NS, 3-STATE OUTPUT |
| 2147H | /23803 | 4K X 1,70 NS |
| 2147H-3 | /23805 | 4K X 1, 55 NS |
| 2148 | /23806 | 1K X 4, 70 NS |
| 2147H-2 | /23807 | 4 K X 1, 45 NS |
| 6504 | /24501 | 4K X 1 , 300 NS |
| 6514 | /24502 | 1K X 4 , 300 NS |
| 6116 | /29104 | 2K X 8 , 90 NS |
| 6516 | /29102 | 2K X 8 , 200 NS |
| 65162 | /29110 | 2K X 8 , 70 NS |
| 65262 | /29103 | 16K X 1 , 85 NS |
| 65262 | /29109 | 16K X 1 , 150 NS, 3-STATE OUTPUT |
| 65642 | /29205 | 8K X 8 , 150 NS |

| Generic Number | 5962 | Circuit Description Size Access Time |
|---|---|---|
| **SRAMs** | | |
| (Note 3) | H3829437* | 8K X 8 , 55 NS, RAD-HARD |
| " | H3829436* | 8K X 8 , 70 NS, RAD-HARD |
| " | H3829435* | 8K X 8 , 85 NS, RAD-HARD |
| " | H9215305* | 32 K X 8, 60 NS, RAD-HARD |
| " | H9215307* | 32 K X 8, 40 NS, RAD-HARD |
| " | H9312802* | 256 K X 1, 60 NS, RAD-HARD |
| " | H9312803* | 256 K X 1, 40 NS, RAD-HARD |

See notes on page 10-19.

## MOS Microprocessors and Interface Peripherals

| Generic Number | 5962 | Circuit Description |
|---|---|---|
| **Microprocessor/Microcontroller** | | |
| MQ80386Q20 | -8766803 | 32 BIT, 20 MHZ MICROPROCESSOR |
| QM80386Q25 | -8766804 | 32 BIT, 25 MHZ MICROPROCESSOR |
| MQ80387Q-XX | -89534XX | 80 BIT NUMERIC PROCESSOR |
| LORFXPC | H9202601* | FIXED POINT PROCESSOR |
| LORFLPC | H9210301* | FLOATING POINT PROCESSOR |
| LORAP1C | H9210401* | ADDRESS PROCESSOR ONE |
| LORAP2C | H9210601* | ADDRESS PROCESSOR TWO |

| Generic Number | MIL-M-38510 | Circuit Description |
|---|---|---|
| **Bus Interfaces** | | |
| UT1553BRTI | /55501 | MIL-STD-1553 RT INTERFACE |

## Semi-Custom Bipolar Array Logic (Notes 2, 3)

| Generic Number | MIL-M-38510 | Circuit Description |
|---|---|---|
| **Semi-Custom Linear Cell Arrays** | | |
| RLA80 | /70601 | <= 8 MACROCELL LOCATIONS |
| RLA120 | /70602 | <= 12 MACROCELL LOCATIONS |
| RLA160 | /70603 | <= 12 MACROCELL LOCATIONS |
| **Bipolar Programmable Array Logic (PAL)** | | |
| PAL16L8A | /50401 | 16 - IN, 8 - OUT, AND-OR-INVERT |
| PAL16L8A-2 | /50407 | 16 - IN, 8 - OUT, AND-OR-INVERT |
| PAL16L8A-20 | /50601 | 16 - IN, 8 - OUT, AND-OR-INVERT |
| PAL16L8A-30 | /50605 | 16 - IN, 8 - OUT, AND-OR-INVERT |
| PAL16R4A | /50405 | 16 - IN, 4 - OUT, AND-OR |
| PAL16R6A | /50403 | 16 - IN, 6 - OUT, AND-OR |
| PAL16R8A | /50402 | 16 - IN, 8 - OUT, AND-OR |
| PAL16R6A-20 | /50603 | 16 - IN, 6 - OUT, AND-OR-, 20 NS |
| PAL16R6A-30 | /50607 | 16 - IN, 6 - OUT, AND-OR-, 30 NS |
| PAL16R4A-20 | /50604 | 16 - IN, 4 - OUT, AND-OR-, 20 NS |
| PAL16R4A30 | /50608 | 16 - IN, 8 - OUT, AND-OR-, 30 NS |
| PAL16R8A-20 | /50602 | 16 - IN, 8 - OUT, AND-OR-, 20 NS |
| PAL16R8A-30 | /50606 | 16 - IN, 8 - OUT, AND-OR-, 30 NS |
| PAL20L8A-15 | /50501 | 20 - IN, 8 - OUT, AND-OR-INVERT |
| PAL20R4A-15 | /50504 | 20 - IN, 4 - OUT, AND-OR |
| PAL20R6A-15 | /50503 | 20 - IN, 6 - OUT, AND-OR |
| PAL20R8A-16 | /50502 | 20 - IN, 8 - OUT, AND-OR |

See notes on page 10-19.

## Application-Specific-Integrated-Circuits (ASIC) and Masked Gate Arrays (Note 4)

| Manufacturer | Process Technology | RHA | Grade | Circuit Description |
|---|---|---|---|---|
| UTMC | 1.2 µm DLM CMOS<br>1.5 µm DLM CMOS<br>1.2 µm TLM CMOS | H<br>H<br>H | 1, 2<br>1, 2 | 25,000 - 105,000 Gates |
| Honeywell | 1.2 µm RICMOS III<br>0.8 µm RICMOS IV | H<br>H | 1, 2<br>1, 2 | 10,000 - 340,000 Gates |
| Loral | 1.0 µm RHCMOS<br>1.0 µm RHCMOS-E<br>0.5 µm HMCMOS | H<br>H<br>H | 1, 2<br>1, 2<br>1, 2 | 50,000 - 300,000 Gates |
| AMI | 1.25 µm DLM CMOS | N/A | 2 | 10,000-300,000 Gates |

See notes on page 10-19.

## Linear Bipolar and Bi-FETs (Notes 2, 3) (Page 1 of 2)

| Generic Number | MIL-M-38510 | Circuit Description |
|---|---|---|
| **Operational Amplifiers** | | |
| 101A | /10103* | SINGLE, EXT. COMPENSATED |
| 108A | /10104* | SINGLE, EXT. COMPENSATED |
| 118 | /10107* | PRECISION, HIGH SPEED |
| 741A, 148 | /10101* | SINGLE, INT. COMPENSATED |
| L558 | /10108* | DUAL, INT. COMPENSATED |
| LH2108A | /10106 | DUAL, EXT. COMPENSATED |
| 747A | /10102* | DUAL, INT. COMPENSATED |
| LH2101A | /10105 | DUAL, HIGH PERFORMANCE |
| 4136 | /11004* | QUAD |
| 4156, 4741 | /11003 | QUAD |
| 124, 2101A | /11005 | QUAD, LOW POWER |
| 124A | /11006* | QUAD, SINGLE SUPPLY |
| 148 | /11001* | QUAD, MEDIUM POWER |
| 155 | /11401* | JFET INPUT, LOW POWER |
| 155A | /11404* | JFET INPUT, LOW POWER |
| 156A | /11405* | JFET INPUT, HIGH PERFORM. |
| 156 | /11402* | JFET INPUT, LOW POWER |
| 157 | /11403 | JFET INPUT, LOW POWER |
| 157A | /11406 | JFET INPUT, HIGH PERFORM. |
| 2500 | /12204 | SINGLE, HIGH PRECISION/ SLEW |
| 2510 | /12205 | SINGLE, HIGH PRECISION/ SLEW |
| 2520 | /12206 | SINGLE, HIGH SLEW |
| 2600 | /12202 | SINGLE, WIDEBAND |
| 2620 | /12203 | SINGLE HIGH SPEED, WIDEBAND |
| OP-07 | /13502* | LOW OFFSET |
| OP-27A | /13503* | PRECISION |
| OP-07A | /13501* | ULTRA LOW OFFSET |
| LF411M, 071 | /11904 | BI-FET, LOW POWER |
| LF153, 072 | /11905 | BI-FET, LOW POWER, DUAL |
| LF1 47, 074 | /11906 | BI-FET, LOW POWER, QUAD |
| 5532A | /13102 | LOW NOISE, DUAL |
| 5534A | /13101 | LOW NOISE |

| Generic Number | MIL-M-38510 | Circuit Description |
|---|---|---|
| **Transmission Line Receivers/Drivers** | | |
| 55107A | /10401 | LINE RECEIVER, DUAL DIFFERENTIAL |
| 55108 | /10402 | LINE RECEIVER, DUAL DIFFERENTIAL |
| 55114 9614 | /10403 | LINE RECEIVER, DUAL DIFFERENTIAL |
| 55115, 9615 | /10404 | LINE RECEIVER, DUAL DIFFERENTIAL |
| 55113 | /10405 | LINE DRIVER, DUAL DIFFERENTIAL |
| 55114 | /10403 | LINE DRIVER, DUAL DIFFERENTIAL |
| 55451 | /12902 | PERIPHERAL DRIVER, DUAL AND |
| 55452 | /12903 | PERIPHERAL DRIVER, DUAL NAND |
| 55454 | /12905 | PERIPHERAL DRIVER, DUAL NOR |
| 55462 | /12908 | PERIPHERAL DRIVER, DUAL NAND |
| 55463 | /12909 | PERIPHERAL DRIVER, DUAL OR |
| **Comparators** | | |
| 111 | /10304* | VOLTAGE COMPARATOR/ BUFFER DUAL, |
| 119 | /10306* | SINGLE HIGH SPEED |
| 119A | /10307* | DUAL, HIGH SPEED |
| 2111 | /10305* | DUAL, PRECISION COMPARATOR |
| 711 | /10302 | DUAL, HIGH SPEED |
| 710 | /10301 | SINGLE, HIGH SPEED |
| 139 | /11201* | QUAD, SINGLE SUPPLY, LOW POWER |
| 193 | /11202 | DUAL, LOW POWER/OFFSET |
| **Timers** | | |
| 555 | /10901* | TIMER, PRECISION |
| 556 | /10902 | DUAL, PRECISION |

See notes on page 10-19.

## Linear Bipolar and Bi-FET Devices (Notes 2, 3) (Page 2 of 2)

| Generic Number | MIL-M-38510 | Circuit Description |
|---|---|---|
| **Voltage Regulators** | | |
| 109 | /10701* | 5V FIXED POSITIVE, 1.5A |
| 140LAH-05,78M05 | /10702 | 5V FIXED POSITIVE, 0.5A |
| 140LAH-12,78M12 | /10703 | 12V FIXED POSITIVE, 0.5A |
| 140LAH-15, 78M15 | /10704 | 15V FIXED POSITIVE, 0.5A |
| 40AAK-05, 7805 | /10706 | 5V FIXED POSITIVE, 1.0A |
| 140AK-12,7812 | /10707 | 12V FIXED POSITIVE, 1.0A |
| 140AK-15, 7815 | /10708 | 15V FIXED POSITIVE, 1.0A |
| 140AK-24, 7824 | /10709 | 24V FIXED POSITIVE, 1.0A |
| 120H-05, 79M05 | /11501* | 5V FIXED NEGATIVE, 0.5A |
| 120H-12, 79M12 | /11502* | 12V FIXED NEGATIVE, 0.5A |
| 120H-15, 79M15 | /11503* | 15V FIXED NEGATIVE, 0.5A |
| 120K-05, 7905 | /11505* | 12V FIXED NEGATIVE, 0.5A |
| 120K-12, 7912 | /11506* | 5V FIXED NEGATIVE, 1.0A |
| 120K-15, 7915 | /11507* | 15V FIXED NEGATIVE, 1.0A |
| 120K24, 7924 | /11508 | 24V FIXED NEGATIVE,1.0A |
| 137H | /11803* | ADJUSTABLE NEGATIVE, 0.5A |
| 137K | /11804* | ADJUSTABLE NEGATIVE, 1.5A |
| 117H | /11703* | ADJUSTABLE POSITIVE, 0.5A |
| 117K | /11704* | ADJUSTABLE POSITIVE, 1.5A |
| 138K | /11706 | ADJUSTABLE POSITIVE |
| LT1009 | /14802* | PROGRAMMABLE V REF. |
| AD584S | /12801 | PROGRAMMABLE V REF |
| AD584T | /12802 | PROGRAMMABLE V REF. |
| 1524, 1846 | /12601 | PULSE WIDTH MODULATOR, |
| 1525A | /12602 | REGULATING |
| 1526 | /12603 | |
| 1527A | /12604 | |

| Generic Number | MIL-M-38510 | Circuit Description |
|---|---|---|
| **Transistor Arrays** | | |
| 2001 | /14101 | DARLINGTON TRANSISTORS |
| 2002 | /14102 | |
| 2003 | /14103 | |
| 2004 | /14104 | |
| 2005 | /14105 | |
| 2801 | /14106 | |
| 2802 | /14107 | |
| 2803 | /14108 | |
| 2804 | /14109 | |
| 2805 | /14110 | |
| **D/A Converters** | | |
| DAC08S | /11301* | 8-BIT, HIGH SPEED MULTIPLYING |
| DAC08SA | /11302* | 8-BIT, HIGH SPEED MULTIPLYING |
| AD562 | /12101 | 12-BIT, CURRENT OUTPUT |
| AD565 | /12103 | 12-BIT, CURRENT OUTPUT |
| AD561 | /13301 | 10-BIT, CURRENT OUTPUT |
| **A/D Converters** | | |
| 574AU | /14001 | 12-BIT, 35 µS |
| 574AT | /14002 | 12-BIT |
| **S/H Amplifiers** | | |
| 198 | /12501* | SAMPLE AND HOLD AMPLIFIER |
| **Multipliers** | | |
| AD534T | /13901 | 4-QUADRANT, 1% ERROR, 1MHZ BW |
| AD534S | /13902 | 4-QUADRANT, 1% ERROR, 1MHZ BW |
| AD532S | /13903 | 4-QUADRANT, 4% ERROR, 1MHZ BW |

See notes on page 10-19.

## Linear CMOS (Notes 2, 3)

| Generic Number | MIL-M-38510/ | Circuit Description |
|---|---|---|
| **Analog Switches** | | |
| 181A | /11101 | SPST, 2- CHANNEL |
| 182A | /11102 | SPST, 2- CHANNEL |
| 184A | /11103 | DPST, 2- CHANNEL_ |
| 185A | /11104 | DPST, 2- CHANNEL |
| 187A | /11105 | SPST |
| 188A | /11106 | SPDT |
| 190A | /11107 | SPDT, 2- CHANNEL |
| 191A | /11108 | SPDT, 2- CHANNEL |
| 200 | /12301 | SPST, 2-CHANNEL |
| 201 | /12302 | SPST, 4- CHANNEL |
| 300 | /11601 | SPST, 2-CHANNEL |
| 301 | /11602 | SPDT, 1-CHANNEL |
| 302 | /11603 | DPST, 2-CHANNEL |
| 303 | /11604 | SPDT, 2-CHANNEL |
| 304 | /11605 | SPST, 2-CHANNEL |
| 305 | /11606 | SPDT, 2-CHANNEL |
| 306 | /11607 | DPST, 2-CHANNEL |
| 307 | /11608 | SPDT, 2-CHANNEL |
| 5040 | /10501 | SPST, 1-CHANNEL |
| 5041 | /10502 | SPST, 2-CHANNEL |
| 5042 | /10503 | SPDT, 1-CHANNEL |
| 5043 | /10504 | SPDT, 2-CHANNEL |
| 5044 | /10505 | DPST, 1-CHANNEL |
| 5045 | /10506 | DPST, 2-CHANNEL |

| Generic Number | MIL-M-38510/ | Circuit Description |
|---|---|---|
| **Analog Multiplexers/ Demultiplexers (MUX/DEMUX)** | | |
| 506 | /19001 | MUX, 16 -CHANNEL |
| 506A | /19002 | MUX/DEMUX, 16-CHANNEL |
| 507 | /19003 | MUX, DIFFERENTIAL 8-CHANNEL |
| 507A | /19004 | MUX/DEMUX, 8-CHANNEL |
| 508 | /19007 | MUX/DEMUX, 8-CHANNEL |
| 508A | /19005 | MUX/DEMUX, 8-CHANNEL |
| 509 | /19008 | MUX/DEMUX, , 4-CHANNEL |
| 509A | /19006 | MUX/DEMUX, DIFF. 4-CHANNEL |

See notes on page 10-19.

## Summary of Preferred Hybrid Microcircuits


| Description | Refer to Page No. |
|---|---|
| MIL-H-38534 SMD One-Part-One Part Number Explanation | 10-16 |
| SMD Non-One-Part-One Part Number Explanation | 10-16 |
| MIL-STD-1553 Peripherals/Controller Bus Interfaces | 10-17 |
| Optocouplers | 10-17 |
| A/D and D/A Converters | 10-17 |
| Voltage References and Regulators | 10-18 |
| DC/DC Converters | 10-18 |

## MIL-H-38534 SMD One-Part-One Part Number Explanation (Note 5)

Part Number Explanation:

| 5962 | /or M, D, R, H | XXXXX | XX | X | X | X |
|---|---|---|---|---|---|---|
| Military Designator | Radiation Hardness Assurance Designator | Drawing Designator | Device Type | Device Class | Case Outline | Lead Finish |
| | M = $3 \times 10^3$ RAD (Si)<br>D = $1 \times 10^4$ RAD (Si)<br>R = $1 \times 10^5$ RAD (Si)<br>H = $1 \times 10^6$ RAD (Si) | Establishes detail requirements and specific electrical characteristics of the microcircuits. | Determines the specific circuit. | K = Grade 1<br>H = Grade 2 | Defines package type. | A - Hot solder dip<br>B - Tin Plate<br>C - Gold Plate |

## SMD Non-One-Part-One Part Number Explanation (Note 5)

Part Number Explanation:

| 5962- | XXXXX | XX | X |
|---|---|---|---|
| Military Designator | Drawing Designator | Device Type | Lead Finish |

or

| XXXXX | XX | X |
|---|---|---|
| Drawing Designator | Device Type | Lead Finish |

See notes on page 10-19.

## Hybrid Microcircuits (Note 5) (Page 1 of 2)

| Generic Number | 5962 or SMD No. | Circuit Description |
|---|---|---|
| **MIL-STD-1553 Peripherals/Controller Bus Interfaces** | | |
| **(NOTE 3)** | -88692XX | BC/RTU/MT, MUX TERMINAL |
| **(NOTE 3)** | -91734XX | BC/RTU/MT, MUX TERMINAL |
| **(NOTE 3)** | -87535XX | DUAL REDUNDANT RTU |
| **(NOTE 3)** | -91786XX | DUAL REDUNDANT RTU |
| **(NOTE 3)** | -89798XX | DUAL REDUNDANT RTU |
| **(NOTE 3)** | -87579XX | DRIVER/RECEIVER, DUAL CHANNEL |
| **(NOTE 3)** | -89447XX | DRIVER/RECEIVER, DUAL CHANNEL |
| **(NOTE 3)** | -89522XX | DRIVER/RECEIVER, DUAL CHANNEL |
| **(NOTE 3)** | -89826XX | DRIVER/RECEIVER, DUAL CHANNEL |
| **(NOTE 3)** | -92061XX | DRIVER/RECEIVER, DUAL CHANNEL |
| **(NOTE 3)** | -86049XX | DRIVER/RECEIVER, SINGLE CHANNEL |
| **(NOTE 3)** | -91749XX | DRIVER/RECEIVER, SINGLE CHANNEL |
| **(NOTE 3)** | -92085XX | DRIVER/RECEIVER, SINGLE CHANNEL |
| **(NOTE 3)** | -88586XX | BUS TO µPROCESSOR INTERFACE |
| **(NOTE 3)** | -92162XX | BUS INTERFACE, RTU, DUAL |
| **(NOTE 3)** | -93065XX | MUX TERMINAL W/ 4K RAM |
| **Optocouplers** | | |
| HCPL-5761 | -8947701 | AC/DC TO LOGIC INTERFACE |
| 4N55 | -8767901 | 2-CHANNEL |
| **(NOTE 3)** | 8102801 | 2-CHANNEL |
| HCPL-5231 | -8876902 | 2-CHANNEL |
| HCPL-1931 | -89572XX | 2-CHANNEL |
| HCPL-5531 | -8767902 | 2-CHANNEL, COMMON SUPPLY |
| HCPL5431 | -8957101 | 2-CHANNEL, COMMON SUPPLY |
| **(NOTE 3)** | -8978501 | 2-CHANNEL, COMMON SUPPLY |
| HCPL-6531 | -8767903 | 2-CHANNEL, SEPARATE SUPPLY |
| **(NOTE 3)** | -8978502 | 2-CHANNEL, SEPARATE SUPPLY |
| HCPL-6231 | -8876901 | 2-CHANNEL, SEPARATE SUPPLY |
| HSSR-7111 | -9314001 | 1-CHANNEL, POWER MOSFET |
| **(NOTE 3)** | -8981001 | 1-CHANNEL, HIGH GAIN |
| HCPL-5201 | -8876801 | 1-CHANNEL |
| 66079 | -9167601 | 1-CHANNEL |
| HCPL5401 | -8957001 | 1-CHANNEL, HIGH SPEED |
| HCPL5601 | -9085501 | 1-CHANNEL, HIGH SPEED |
| **(NOTE 3)** | -9085401 | 1-CHANNEL,TRANSISTOR OUTPUT |

| Generic Number | 5962 or SMD No. | Circuit Description |
|---|---|---|
| **A/D Converters** | | |
| **(NOTE 3)** | -88508XX | A/D, 12-BIT |
| AD9005ATM | -9066601 | A/D, 12-BIT |
| CLC925B8C | -9099501 | A/D, 12-BIT |
| MN5200-5206 | -89583XX | A/D, 12-BIT |
| AD578 | -89658XX | A/D, 12-BIT,HIGH-SPEED |
| MN5210-5215 | -89584XX | A/D, 12-BIT, HIGH-SPEED |
| ADC00302 | -88542XX | A/D, 12-BIT, TRACK/HOLD |
| MN5246 | -89595XX | A/D, 12-BIT, ± 2.5V |
| SP9588 | -9063101 | A/D, 14-BIT |
| MN5295 | -8956901 | A/D, 16-BIT |
| MN5290/5291 | -8956301 | A/D, 16-BIT |
| MN6400 | -9177001 | A/D, 16-BIT |
| MN6450 | -9225301 | A/D, 16-BIT |
| AD1385 | -9171201 | A/D, 16-BIT |
| HS9576 | -90795XX | A/D, 16-BIT, ± 0.003 %FSR |
| HS1068 | -8877601 | A/D, 8-BIT FLASH |
| SP1078 | -8997901 | A/D, 8-BIT FLASH |
| MN5143 | -90497XX | A/D, 8-BIT, 0 TO +10V INPUT RANGE |
| MN5100/5101 | -92073XX | A/D, 8-BIT FLASH |
| MN5142/ 5141 | -90497XX | A/D, 8-BIT, ± 10V |
| **D/A Converters** | | |
| ADH030 | -9063401 | D/A, 12-BIT |
| DAC HKB | -8952801 | D/A, 12-BIT, BINARY INPUT CODE |
| MN3860 | -9057001 | D/A, 12-BIT, INPUT REGISTER |
| DAC02310 | -88517XX | D/A, 12-BIT, DEGLITCHED |
| **(NOTE 3)** | -89531XX | D/A, 16-BIT, 0 TO 10V |
| HS9378 | -89862XX | D/A, 16-BIT |
| MN3009/3008 | -8768801 | D/A, 8-BIT, ± 2V OUTPUT |
| RGBDAC3808 | -89509XX | D/A, 8-BIT, TRIPLE |
| HS/MN 3020 | -89718XX | D/A, 8 -BIT, WITH INPUT REGISTER |
| AD390 | -88509XX | D/A, 12-BIT, QUAD |
| AD394 | -88510XX | D/A, 12-BIT, QUAD |
| HS9342 | -88629XX | D/A, 12-BIT, QUAD |

See notes on page 10-19.

## Hybrid Microcircuits (Note 5) (Page 2 of 2)

| Generic Number | 5962 or SMD No. | Circuit Description |
|---|---|---|
| **Voltage References and Regulators** | | |
| **(NOTE 3)** | -93134XX | VOLT. REGULATOR |
| OM7501-7509 | -89490XX | VOLT. REGULATOR FIXED, DUAL VOLT OUT |
| **DC/DC Converters** | | |
| MHF-2805S | -9213901 | 12W, 5V SINGLE OUTPUT |
| MHF-2812S | -9166401 | 15W, 12V SINGLE OUTPUT |
| MHF-2852S | -9160101 | 15W, 15V SINGLE OUTPUT |
| MHF-2812D | -9214401 | 15W, ±12V DUAL OUTPUT |
| MHF-2815D | -9161401 | 15W, ±15V DUAL OUTPUT |
| MTR-2805S | -9306801 | 25W, 5V SINGLE OUTPUT |
| MTR-2805D | -9320501 | 25W, ±5V DUAL OUTPUT |
| MTR-2812S | -9306901 | 30W, 12V SINGLE OUTPUT |
| MTR-2815S | -9307001 | 30W, 15V SINGLE OUTPUT |
| MTR-2818S | -9320201 | 30W, 18V SINGLE OUTPUT |
| MTR-2812D | -9307101 | 30W, ±12V DUAL OUTPUT |
| MTR-2815D | -9307201 | 30W, ±15V DUAL OUTPUT |
| MFL-2805S | -9316301 | 50W, 5V SINGLE OUTPUT |
| MFL-2805D | -9319101 | 50W, ±5V DUAL OUTPUT |
| MSA-2815S | -9309401 | 5W, 15V SINGLE OUTPUT |
| MSA-2815D | -9309001 | 5W, ±15V DUAL OUTPUT |
| MFL-2812S | -9316201 | 60W, 12V SINGLE OUTPUT |
| MFL-2815S | -9316101 | 60W, 15V SINGLE OUTPUT |
| MSA-2812D | -9308901 | 5W, ±12V DUAL OUTPUT |
| MFL-2812D | -9319201 | 60W, ±12V DUAL OUTPUT |
| MFL-2815D | -9319301 | 60W, ±15V DUAL OUTPUT |
| MSA-2812S | -9309301 | 5W, 12V SINGLE OUTPUT |
| MSA-2805S | -9309201 | 5W, 5V SINGLE OUTPUT |

See notes on page 10-19.

## Notes for Preferred Microcircuits and Hybrids

**Notes:**

1. Preferred microcircuits may be purchased to MIL-M-38510 detailed specifications or MIL-I-38535 one-part-one-part number Standard Military Drawings (SMDs). M38510 Class S and SMD Class V microcircuits are considered preferred Grade 1 parts, and M38510 Class B and SMD Class Q microcircuits, with the addition of PIND testing in accordance with Appendix A, are considered preferred Grade 2 parts. MIL-M-38510 has been incorporated into MIL-I-38535 as Appendix A and all future microcircuit specifications will be written as SMDs (one-part-one part number).
2. An asterisk (*) next to SMD number indicates that parts are available in both classes V/S/K and Q/B/H. The absence of the asterisk indicates that parts are available only as class Q/B/H.
3. No generic number is applicable to these parts, since different manufacturers have different part ID numbers. Refer to or QML-38535, or QML-38534 for the manufacturer's listed part number.
4. The customer controls the design details by defining the application-specific requirements completely within the Altered Item Drawing (AID). The AID does not need to specify the quality and reliability requirements, as these are covered under the QML-38535 SMD certification and qualification requirements; however, the AID needs to supplement the requirements for specific design and fault coverage measurements in accordance with Method 5012 of MIL-STD-883.
5. Preferred hybrid microcircuits are usually purchased to MIL-H-38534 One-Part-One-Part Number Standard Military Drawings (SMDs). Class K hybrids would normally be considered Grade 1 parts, but none are currently listed as preferred parts. Class H hybrids are listed and, with the addition of PIND testing, in accordance with Appendix A, are considered preferred Grade 2 parts. These can be purchased to either MIL-H-38534 SMDs using the one-part-one-part number designation, or to older SMDs which use the non-one-part-one number designation.

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