

INCH-POUND  
MIL-M-38510/656  
AMENDMENT 3  
23 May 2000  
SUPERSEDING  
MIL-M-38510/656  
AMENDMENT 2  
31 March 1992

MILITARY SPECIFICATION  
MICROCIRCUITS, DIGITAL, HIGH SPEED, CMOS FLIP-FLOPS,  
MONOLITHIC SILICON

Inactive for new design after 9 August 1996

This amendment forms a part of MIL-M-38510/656, dated  
31 March 1986, and is approved for use by all Departments  
and Agencies of the Department of Defense.

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\* 1.2.3 Case outlines: Delete in its entirety and substitute with the following:

<u>Outline letter</u>	<u>Package descriptive designator (see MIL-STD-1835)</u>
R	GDIP1-T20 or CDIP2-T20, 20-lead dual-in-line package
S	GDIP2-F20 or CDIP3-F20, 20-lead flat package
X	See figure 5
2	CQCC1-N20, 20 terminal leadless chip carrier package

\*1.3 Thermal resistance, delete in its entirety and substitute with the following:  
"Thermal resistance, junction-to-case ( $\theta_{JC}$ ) - - - - - See MIL-STD-1835".

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\*3.2.4 Delete and substitute as; Case outlines. The case outlines shall be as specified in 1.2.3 and as specified on figure 5.

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Table I:  $I_{OZL}$  and  $I_{OZH}$ , add device type 52 to the device type column. In the max limits column of  $I_{OZL}$  delete "-0.2 V" and substitute "2.0". In the max limits column of  $I_{OZH}$  delete "0.2 V" and substitute "2.0".

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Figure 1: Delete "Case R" and substitute "Cases R and S". Delete "DUAL-IN-LINE-PACKAGE".

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Figure 1: Delete "DUAL-IN-LINE-PACKAGE" and substitute "Cases R and S".

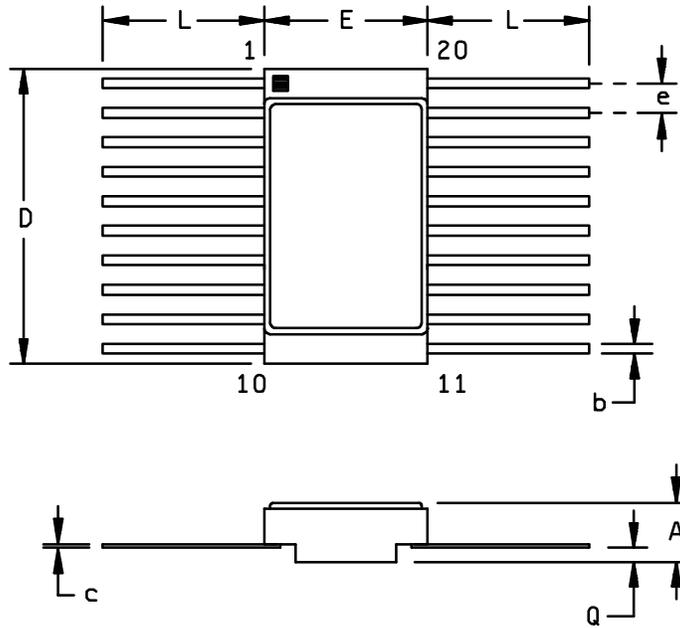
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\*Figure 1: Delete "Cases R and S" and substitute "Cases R, S, and X".

\*Add case outline X as FIGURE 5.

“Device type 04

Case outline X



Device type 04, case outline X						
Symbol	Inches			Millimeters		
	Min	Nom	Max	Min	Nom	Max
A	.045		.085	1.14		2.16
b	.015		.019	0.38		0.48
c	.003		.006	0.076		0.152
D	.505		.515	12.83		13.08
E	.275		.285	6.99		7.24
e	0.045		0.055	1.14		1.40
L	.250		.370	6.35		9.39
Q	.010			0.25		
N	20			20		

FIGURE 5. Case outline X.”

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Table III: Delete "Cases R, 2" and substitute "Cases R, S, 2".

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Table III, device type 02,  $I_{OZH}$ ,  $T_C = +25^\circ\text{C}$  in the max limits column, delete "0.1" and substitute "0.2".  
Table III, device type 02,  $I_{OZL}$ ,  $T_C = +25^\circ\text{C}$  in the max limits column, delete "-0.1" and substitute "-0.2".  
Table III, device type 02,  $I_{OZH}$ ,  $T_C = +125^\circ\text{C}$  in the max limits column, delete "0.2" and substitute "2.0".  
Table III, device type 02,  $I_{OZL}$ ,  $T_C = +125^\circ\text{C}$  in the max limits column, delete "-0.2" and substitute "-2.0".

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\*Table III: Delete "Cases R, S, 2" and substitute "Cases R, S, X, and 2".

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Table III, device type 04,  $I_{OZH}$ ,  $T_C = +25^\circ\text{C}$  in the max limits column, delete "0.1" and substitute "0.2".  
Table III, device type 04,  $I_{OZL}$ ,  $T_C = +25^\circ\text{C}$  in the max limits column, delete "-0.1" and substitute "-0.2".  
Table III, device type 04,  $I_{OZH}$ ,  $T_C = +125^\circ\text{C}$  in the max limits column, delete "0.2" and substitute "2.0".  
Table III, device type 04,  $I_{OZL}$ ,  $T_C = +125^\circ\text{C}$  in the max limits column, delete "-0.2" and substitute "-2.0".

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Table III, device type 05,  $I_{OZH}$ ,  $T_C = +25^\circ\text{C}$  in the max limits column, delete "0.1" and substitute "0.2".  
Table III, device type 05,  $I_{OZL}$ ,  $T_C = +25^\circ\text{C}$  in the max limits column, delete "0.1" and substitute "-0.2".  
Table III, device type 05,  $I_{OZH}$ ,  $T_C = +125^\circ\text{C}$  in the max limits column, delete "0.2" and substitute "2.0".  
Table III, device type 05,  $I_{OZL}$ ,  $T_C = +125^\circ\text{C}$  in the max limits column, delete "0.2" and substitute "-2.0".

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Table III, device type 06,  $I_{OZH}$ ,  $T_C = +25^\circ\text{C}$  in the max limits column, delete "0.1" and substitute "0.2".  
Table III, device type 06,  $I_{OZL}$ ,  $T_C = +25^\circ\text{C}$  in the max limits column, delete "-0.1" and substitute "-0.2".  
Table III, device type 06,  $I_{OZH}$ ,  $T_C = +125^\circ\text{C}$  in the max limits column, delete "0.2" and substitute "2.0".  
Table III, device type 06,  $I_{OZL}$ ,  $T_C = +125^\circ\text{C}$  in the max limits column, delete "-0.2" and substitute "-2.0".

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Table III: Delete "Case R" and substitute "Cases R, S, 2".

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Table III, device type 52,  $I_{OZH}$ ,  $T_C = +25^\circ\text{C}$  in the max limits column, delete "0.1" and substitute "0.2".  
Table III, device type 52,  $I_{OZL}$ ,  $T_C = +25^\circ\text{C}$  in the max limits column, delete "-0.1" and substitute "-0.2".  
Table III, device type 52,  $I_{OZH}$ ,  $T_C = +125^\circ\text{C}$  in the max limits column, delete "0.2" and substitute "2.0".  
Table III, device type 52,  $I_{OZL}$ ,  $T_C = +125^\circ\text{C}$  in the max limits column, delete "-0.2" and substitute "-2.0".

The margins of this amendment are marked with an asterisk to indicate where changes (additions, modifications, corrections, deletions) from the previous amendment were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous amendment.

CONCLUDING MATERIAL

Custodians:

Army - CR  
Navy - EC  
Air Force - 11  
DLA-CC

Preparing activity:

DLA-CC

Review activities:

Army - AR, MI, SM  
Air Force - 19, 99  
NAVY - AS, CG, MC, SH

(Project 5962-1868)