

#S=immediate(l=1), S=register #D=immediate(l=1), D=register Assembly Syntax	Group	Encoding	0	- Alias -
<inst> <ops>	Instruction Prefix	1111 ----- --- -----	456	.
<u>RET</u> <inst> <ops>	Instruction Prefix	0000 ----- --- -----	411	.
<empty> {#}D, {#}S	Miscellaneous	EEEE 1011110 1LI DDDDDDDDD SSSSSSSSS	213	.
<empty> {#}D, {#}S	Miscellaneous	EEEE 1011111 0LI DDDDDDDDD SSSSSSSSS	214	.
ABS D {WC/WZ/WCZ}	Math and Logic	EEEE 0110010 CZ0 DDDDDDDDD DDDDDDDDD	62	alias
ABS D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0110010 CZI DDDDDDDDD SSSSSSSSS	61	.
ADD D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0001000 CZI DDDDDDDDD SSSSSSSSS	10	.
ADDCT1 D, {#}S	Events - Configuration	EEEE 1010011 00I DDDDDDDDD SSSSSSSSS	145	.
ADDCT2 D, {#}S	Events - Configuration	EEEE 1010011 01I DDDDDDDDD SSSSSSSSS	146	.
ADDCT3 D, {#}S	Events - Configuration	EEEE 1010011 10I DDDDDDDDD SSSSSSSSS	147	.
ADDPPIX D, {#}S	Pixel Mixer	EEEE 1010010 00I DDDDDDDDD SSSSSSSSS	141	.
ADDS D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0001010 CZI DDDDDDDDD SSSSSSSSS	12	.
ADDSX D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0001011 CZI DDDDDDDDD SSSSSSSSS	13	.
ADDX D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0001001 CZI DDDDDDDDD SSSSSSSSS	11	.
AKPIN {#}S	Smart Pins	EEEE 1100000 01I 00000001 SSSSSSSSS	216	alias
ALLOWI	Interrupts	EEEE 1101011 000 000100000 000100100	302	.
ALTB D	Register Indirection	EEEE 1001100 111 DDDDDDDDD 000000000	121	alias
ALTB D, {#}S	Register Indirection	EEEE 1001100 11I DDDDDDDDD SSSSSSSSS	120	.
ALTD D	Register Indirection	EEEE 1001100 011 DDDDDDDDD 000000000	117	alias
ALTD D, {#}S	Register Indirection	EEEE 1001100 01I DDDDDDDDD SSSSSSSSS	116	.
ALTGB D	Register Indirection	EEEE 1001011 011 DDDDDDDDD 000000000	109	alias
ALTGB D, {#}S	Register Indirection	EEEE 1001011 01I DDDDDDDDD SSSSSSSSS	108	.
ALTGN D	Register Indirection	EEEE 1001010 111 DDDDDDDDD 000000000	105	alias
ALTGN D, {#}S	Register Indirection	EEEE 1001010 11I DDDDDDDDD SSSSSSSSS	104	.
ALTGW D	Register Indirection	EEEE 1001011 111 DDDDDDDDD 000000000	113	alias
ALTGW D, {#}S	Register Indirection	EEEE 1001011 11I DDDDDDDDD SSSSSSSSS	112	.
ALTI D	Register Indirection	EEEE 1001101 001 DDDDDDDDD 101100100	123	alias
ALTI D, {#}S	Register Indirection	EEEE 1001101 00I DDDDDDDDD SSSSSSSSS	122	.
ALTR D	Register Indirection	EEEE 1001100 001 DDDDDDDDD 000000000	115	alias
ALTR D, {#}S	Register Indirection	EEEE 1001100 00I DDDDDDDDD SSSSSSSSS	114	.
ALTS D	Register Indirection	EEEE 1001100 101 DDDDDDDDD 000000000	119	alias
ALTS D, {#}S	Register Indirection	EEEE 1001100 10I DDDDDDDDD SSSSSSSSS	118	.
ALTSB D	Register Indirection	EEEE 1001011 001 DDDDDDDDD 000000000	107	alias
ALTSB D, {#}S	Register Indirection	EEEE 1001011 00I DDDDDDDDD SSSSSSSSS	106	.
ALTSN D	Register Indirection	EEEE 1001010 101 DDDDDDDDD 000000000	103	alias
ALTSN D, {#}S	Register Indirection	EEEE 1001010 10I DDDDDDDDD SSSSSSSSS	102	.
ALTSW D	Register Indirection	EEEE 1001011 101 DDDDDDDDD 000000000	111	alias
ALTSW D, {#}S	Register Indirection	EEEE 1001011 10I DDDDDDDDD SSSSSSSSS	110	.

AND D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0101000 CZI DDDDDDDDD SSSSSSSSS	50	.
ANDN D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0101001 CZI DDDDDDDDD SSSSSSSSS	51	.
AUGD #N	Miscellaneous	EEEE 11111NN NNN NNNNNNNNN NNNNNNNNN	409	.
AUGS #N	Miscellaneous	EEEE 11110NN NNN NNNNNNNNN NNNNNNNNN	408	.
BITC D, {#}S {WCZ}	Math and Logic	EEEE 0100010 CZI DDDDDDDDD SSSSSSSSS	44	.
BITH D, {#}S {WCZ}	Math and Logic	EEEE 0100001 CZI DDDDDDDDD SSSSSSSSS	43	.
BITL D, {#}S {WCZ}	Math and Logic	EEEE 0100000 CZI DDDDDDDDD SSSSSSSSS	42	.
BITNC D, {#}S {WCZ}	Math and Logic	EEEE 0100011 CZI DDDDDDDDD SSSSSSSSS	45	.
BITNOT D, {#}S {WCZ}	Math and Logic	EEEE 0100111 CZI DDDDDDDDD SSSSSSSSS	49	.
BITNZ D, {#}S {WCZ}	Math and Logic	EEEE 0100101 CZI DDDDDDDDD SSSSSSSSS	47	.
BITRND D, {#}S {WCZ}	Math and Logic	EEEE 0100110 CZI DDDDDDDDD SSSSSSSSS	48	.
BITZ D, {#}S {WCZ}	Math and Logic	EEEE 0100100 CZI DDDDDDDDD SSSSSSSSS	46	.
BLNPIX D, {#}S	Pixel Mixer	EEEE 1010010 10I DDDDDDDDD SSSSSSSSS	143	.
BMASK D	Math and Logic	EEEE 1001110 010 DDDDDDDDD DDDDDDDDD	130	alias
BMASK D, {#}S	Math and Logic	EEEE 1001110 01I DDDDDDDDD SSSSSSSSS	129	.
BRK {#}D	Interrupts	EEEE 1101011 00L DDDDDDDDD 000110110	331	.
CALL #(\)A	Branch A - Call	EEEE 1101101 RAA AAAAAAAAA AAAAAAAAA	403	.
CALL D {WC/WZ/WCZ}	Branch D - Call	EEEE 1101011 CZ0 DDDDDDDDD 000101101	318	.
CALLA #(\)A	Branch A - Call	EEEE 1101110 RAA AAAAAAAAA AAAAAAAAA	404	.
CALLA D {WC/WZ/WCZ}	Branch D - Call	EEEE 1101011 CZ0 DDDDDDDDD 000101110	320	.
CALLB #(\)A	Branch A - Call	EEEE 1101111 RAA AAAAAAAAA AAAAAAAAA	405	.
CALLB D {WC/WZ/WCZ}	Branch D - Call	EEEE 1101011 CZ0 DDDDDDDDD 000101111	322	.
CALLD D, {#}S {WC/WZ/WCZ}	Branch S - Call	EEEE 1011001 CZI DDDDDDDDD SSSSSSSSS	157	.
CALLD PA/PB/PTRA/PTRB, #(\)A	Branch A - Call	EEEE 11100WW RAA AAAAAAAAA AAAAAAAAA	406	.
CALLPA {#}D, {#}S	Branch S - Call	EEEE 1011010 0LI DDDDDDDDD SSSSSSSSS	166	.
CALLPB {#}D, {#}S	Branch S - Call	EEEE 1011010 1LI DDDDDDDDD SSSSSSSSS	167	.
CMP D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0010000 CZI DDDDDDDDD SSSSSSSSS	18	.
CMPM D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0010101 CZI DDDDDDDDD SSSSSSSSS	23	.
CMPR D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0010100 CZI DDDDDDDDD SSSSSSSSS	22	.
CMPS D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0010010 CZI DDDDDDDDD SSSSSSSSS	20	.
CMPSUB D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0010111 CZI DDDDDDDDD SSSSSSSSS	25	.
CMPSX D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0010011 CZI DDDDDDDDD SSSSSSSSS	21	.
CMPX D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0010001 CZI DDDDDDDDD SSSSSSSSS	19	.
COGATN {#}D	Events - Attention	EEEE 1101011 00L DDDDDDDDD 000111111	340	.
COGBRK {#}D	Interrupts	EEEE 1101011 00L DDDDDDDDD 000110101	330	.
COGID {#}D {WC}	Hub Control - Cogs	EEEE 1101011 C0L DDDDDDDDD 000000001	242	.
COGINIT {#}D, {#}S {WC}	Hub Control - Cogs	EEEE 1100111 CLI DDDDDDDDD SSSSSSSSS	234	.
COGSTOP {#}D	Hub Control - Cogs	EEEE 1101011 00L DDDDDDDDD 000000011	243	.
CRCBIT D, {#}S	Math and Logic	EEEE 1001110 10I DDDDDDDDD SSSSSSSSS	131	.
CRCNIB D, {#}S	Math and Logic	EEEE 1001110 11I DDDDDDDDD SSSSSSSSS	132	.

DECMOD D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0111001 CZI DDDDDDDDD SSSSSSSSS	74	.
DECOD D	Math and Logic	EEEE 1001110 000 DDDDDDDDD DDDDDDDDD	128	alias
DECOD D, {#}S	Math and Logic	EEEE 1001110 00I DDDDDDDDD SSSSSSSSS	127	.
DIRC {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001000010	351	.
DIRH {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001000001	350	.
DIRL {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001000000	349	.
DIRNC {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001000011	352	.
DIRNOT {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001000111	356	.
DIRNZ {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001000101	354	.
DIRRND {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001000110	355	.
DIRZ {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001000100	353	.
DJF D, {#}S	Branch S - Mod & Test	EEEE 1011011 10I DDDDDDDDD SSSSSSSSS	170	.
DJNF D, {#}S	Branch S - Mod & Test	EEEE 1011011 11I DDDDDDDDD SSSSSSSSS	171	.
DJNZ D, {#}S	Branch S - Mod & Test	EEEE 1011011 01I DDDDDDDDD SSSSSSSSS	169	.
DJZ D, {#}S	Branch S - Mod & Test	EEEE 1011011 00I DDDDDDDDD SSSSSSSSS	168	.
DRVC {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001011010	375	.
DRVH {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001011001	374	.
DRVL {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001011000	373	.
DRVNC {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001011011	376	.
DRVNOT {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001011111	380	.
DRVNZ {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001011101	378	.
DRVNRND {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001011110	379	.
DRVZ {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001011100	377	.
ENCOD D {WC/WZ/WCZ}	Math and Logic	EEEE 0111100 CZ0 DDDDDDDDD DDDDDDDDD	78	alias
ENCOD D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0111100 CZI DDDDDDDDD SSSSSSSSS	77	.
EXECF {#}D	Branch D - Call+Skip	EEEE 1101011 00L DDDDDDDDD 000110011	327	.
FBLOCK {#}D, {#}S	Hub FIFO - New Block	EEEE 1100100 1LI DDDDDDDDD SSSSSSSSS	228	.
FGE D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0011000 CZI DDDDDDDDD SSSSSSSSS	26	.
FGES D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0011010 CZI DDDDDDDDD SSSSSSSSS	28	.
FLE D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0011001 CZI DDDDDDDDD SSSSSSSSS	27	.
FLES D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0011011 CZI DDDDDDDDD SSSSSSSSS	29	.
FLTC {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001010010	367	.
FLTH {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001010001	366	.
FLTL {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001010000	365	.
FLTNC {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001010011	368	.
FLTNOT {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001010111	372	.
FLTNZ {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001010101	370	.
FLTRND {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001010110	371	.
FLTZ {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001010100	369	.
GETBRK D WC/WZ/WCZ	Interrupts	EEEE 1101011 CZ0 DDDDDDDDD 000110101	329	.

GETBYTE D	Math and Logic	EEEE 1000111 000 DDDDDDDDD 000000000	93	alias
GETBYTE D, {#}S, #N	Math and Logic	EEEE 1000111 NNI DDDDDDDDD SSSSSSSSS	92	.
GETCT D {WC}	Miscellaneous	EEEE 1101011 C00 DDDDDDDDD 000011010	260	.
GETNIB D	Math and Logic	EEEE 1000010 000 DDDDDDDDD 000000000	87	alias
GETNIB D, {#}S, #N	Math and Logic	EEEE 100001N NNI DDDDDDDDD SSSSSSSSS	86	.
GETPTR D	Hub FIFO	EEEE 1101011 000 DDDDDDDDD 000110100	328	.
GETQX D {WC/WZ/WCZ}	CORDIC Solver	EEEE 1101011 CZ0 DDDDDDDDD 000011000	258	.
GETQY D {WC/WZ/WCZ}	CORDIC Solver	EEEE 1101011 CZ0 DDDDDDDDD 000011001	259	.
GETRND D {WC/WZ/WCZ}	Miscellaneous	EEEE 1101011 CZ0 DDDDDDDDD 000011011	261	.
GETRND WC/WZ/WCZ	Miscellaneous	EEEE 1101011 CZ1 000000000 000011011	262	alias
GETSCP D	Smart Pins	EEEE 1101011 000 DDDDDDDDD 001110001	401	.
GETWORD D	Math and Logic	EEEE 1001001 100 DDDDDDDDD 000000000	99	alias
GETWORD D, {#}S, #N	Math and Logic	EEEE 1001001 1NI DDDDDDDDD SSSSSSSSS	98	.
GETXACC D	Streamer	EEEE 1101011 000 DDDDDDDDD 000011110	265	.
HUBSET {#}D	Hub Control - Multi	EEEE 1101011 00L DDDDDDDDD 000000000	241	.
IF_00 <inst> <ops>	Instruction Prefix	0001 -----	415	alias
IF_01 <inst> <ops>	Instruction Prefix	0010 -----	418	alias
IF_0X <inst> <ops>	Instruction Prefix	0011 -----	421	alias
IF_10 <inst> <ops>	Instruction Prefix	0100 -----	424	alias
IF_11 <inst> <ops>	Instruction Prefix	1000 -----	436	alias
IF_1X <inst> <ops>	Instruction Prefix	1100 -----	448	alias
IF_A <inst> <ops>	Instruction Prefix	0001 -----	414	alias
IF_AE <inst> <ops>	Instruction Prefix	0011 -----	420	alias
IF_B <inst> <ops>	Instruction Prefix	1100 -----	447	alias
IF_BE <inst> <ops>	Instruction Prefix	1110 -----	454	alias
IF_C <inst> <ops>	Instruction Prefix	1100 -----	446	.
IF_C_AND_NZ <inst> <ops>	Instruction Prefix	0100 -----	422	.
IF_C_AND_Z <inst> <ops>	Instruction Prefix	1000 -----	434	.
IF_C_EQ_Z <inst> <ops>	Instruction Prefix	1001 -----	437	.
IF_C_NE_Z <inst> <ops>	Instruction Prefix	0110 -----	428	.
IF_C_OR_NZ <inst> <ops>	Instruction Prefix	1101 -----	449	.
IF_C_OR_Z <inst> <ops>	Instruction Prefix	1110 -----	452	.
IF_DIFF <inst> <ops>	Instruction Prefix	0110 -----	430	alias
IF_E <inst> <ops>	Instruction Prefix	1010 -----	441	alias
IF_NC <inst> <ops>	Instruction Prefix	0011 -----	419	.
IF_NC_AND_NZ <inst> <ops>	Instruction Prefix	0001 -----	412	.
IF_NC_AND_Z <inst> <ops>	Instruction Prefix	0010 -----	416	.
IF_NC_OR_NZ <inst> <ops>	Instruction Prefix	0111 -----	431	.
IF_NC_OR_Z <inst> <ops>	Instruction Prefix	1011 -----	443	.
IF_NE <inst> <ops>	Instruction Prefix	0101 -----	426	alias

IF_NOT_00	<inst> <ops>	Instruction Prefix	1110 ----- --- -----	455	alias
IF_NOT_01	<inst> <ops>	Instruction Prefix	1101 ----- --- -----	451	alias
IF_NOT_10	<inst> <ops>	Instruction Prefix	1011 ----- --- -----	445	alias
IF_NOT_11	<inst> <ops>	Instruction Prefix	0111 ----- --- -----	433	alias
IF_NZ	<inst> <ops>	Instruction Prefix	0101 ----- --- -----	425	.
IF_NZ_AND_C	<inst> <ops>	Instruction Prefix	0100 ----- --- -----	423	alias
IF_NZ_AND_NC	<inst> <ops>	Instruction Prefix	0001 ----- --- -----	413	alias
IF_NZ_OR_C	<inst> <ops>	Instruction Prefix	1101 ----- --- -----	450	alias
IF_NZ_OR_NC	<inst> <ops>	Instruction Prefix	0111 ----- --- -----	432	alias
IF_SAME	<inst> <ops>	Instruction Prefix	1001 ----- --- -----	439	alias
IF_X0	<inst> <ops>	Instruction Prefix	0101 ----- --- -----	427	alias
IF_X1	<inst> <ops>	Instruction Prefix	1010 ----- --- -----	442	alias
IF_Z	<inst> <ops>	Instruction Prefix	1010 ----- --- -----	440	.
IF_Z_AND_C	<inst> <ops>	Instruction Prefix	1000 ----- --- -----	435	alias
IF_Z_AND_NC	<inst> <ops>	Instruction Prefix	0010 ----- --- -----	417	alias
IF_Z_EQ_C	<inst> <ops>	Instruction Prefix	1001 ----- --- -----	438	alias
IF_Z_NE_C	<inst> <ops>	Instruction Prefix	0110 ----- --- -----	429	alias
IF_Z_OR_C	<inst> <ops>	Instruction Prefix	1110 ----- --- -----	453	alias
IF_Z_OR_NC	<inst> <ops>	Instruction Prefix	1011 ----- --- -----	444	alias
IJNZ D, {#}S		Branch S - Mod & Test	EEEE 1011100 01I DDDDDDDDD SSSSSSSSS	173	.
IJZ D, {#}S		Branch S - Mod & Test	EEEE 1011100 00I DDDDDDDDD SSSSSSSSS	172	.
INCMOD D, {#}S {WC/WZ/WCZ}		Math and Logic	EEEE 0111000 CZI DDDDDDDDD SSSSSSSSS	73	.
JATN {#}S		Events - Branch	EEEE 1011110 01I 000001110 SSSSSSSSS	195	.
JCT1 {#}S		Events - Branch	EEEE 1011110 01I 000000001 SSSSSSSSS	182	.
JCT2 {#}S		Events - Branch	EEEE 1011110 01I 000000010 SSSSSSSSS	183	.
JCT3 {#}S		Events - Branch	EEEE 1011110 01I 000000011 SSSSSSSSS	184	.
JFBW {#}S		Events - Branch	EEEE 1011110 01I 000001001 SSSSSSSSS	190	.
JINT {#}S		Events - Branch	EEEE 1011110 01I 000000000 SSSSSSSSS	181	.
JMP #(\)A		Branch A - Jump	EEEE 1101100 RAA AAAAAAAAA AAAAAAAAA	402	.
JMP D {WC/WZ/WCZ}		Branch D - Jump	EEEE 1101011 CZ0 DDDDDDDDD 000101100	317	.
JMPREL {#}D		Branch D - Jump	EEEE 1101011 00L DDDDDDDDD 000110000	324	.
JNATN {#}S		Events - Branch	EEEE 1011110 01I 000011110 SSSSSSSSS	211	.
JNCT1 {#}S		Events - Branch	EEEE 1011110 01I 000010001 SSSSSSSSS	198	.
JNCT2 {#}S		Events - Branch	EEEE 1011110 01I 000010010 SSSSSSSSS	199	.
JNCT3 {#}S		Events - Branch	EEEE 1011110 01I 000010011 SSSSSSSSS	200	.
JNFBW {#}S		Events - Branch	EEEE 1011110 01I 000011001 SSSSSSSSS	206	.
JNINT {#}S		Events - Branch	EEEE 1011110 01I 000010000 SSSSSSSSS	197	.
JNPAT {#}S		Events - Branch	EEEE 1011110 01I 000011000 SSSSSSSSS	205	.
JNQMT {#}S		Events - Branch	EEEE 1011110 01I 000011111 SSSSSSSSS	212	.
JNSE1 {#}S		Events - Branch	EEEE 1011110 01I 000010100 SSSSSSSSS	201	.

JNSE2 {#}S	Events - Branch	EEEE 1011110 01I 000010101 SSSSSSSSS	202	.
JNSE3 {#}S	Events - Branch	EEEE 1011110 01I 000010110 SSSSSSSSS	203	.
JNSE4 {#}S	Events - Branch	EEEE 1011110 01I 000010111 SSSSSSSSS	204	.
JNXFI {#}S	Events - Branch	EEEE 1011110 01I 000011011 SSSSSSSSS	208	.
JNXMT {#}S	Events - Branch	EEEE 1011110 01I 000011010 SSSSSSSSS	207	.
JNXRL {#}S	Events - Branch	EEEE 1011110 01I 000011101 SSSSSSSSS	210	.
JNXRO {#}S	Events - Branch	EEEE 1011110 01I 000011100 SSSSSSSSS	209	.
JPAT {#}S	Events - Branch	EEEE 1011110 01I 000001000 SSSSSSSSS	189	.
JQMT {#}S	Events - Branch	EEEE 1011110 01I 000001111 SSSSSSSSS	196	.
JSE1 {#}S	Events - Branch	EEEE 1011110 01I 000000100 SSSSSSSSS	185	.
JSE2 {#}S	Events - Branch	EEEE 1011110 01I 000000101 SSSSSSSSS	186	.
JSE3 {#}S	Events - Branch	EEEE 1011110 01I 000000110 SSSSSSSSS	187	.
JSE4 {#}S	Events - Branch	EEEE 1011110 01I 000000111 SSSSSSSSS	188	.
JXFI {#}S	Events - Branch	EEEE 1011110 01I 000001011 SSSSSSSSS	192	.
JXMT {#}S	Events - Branch	EEEE 1011110 01I 000001010 SSSSSSSSS	191	.
JXRL {#}S	Events - Branch	EEEE 1011110 01I 000001101 SSSSSSSSS	194	.
JXRO {#}S	Events - Branch	EEEE 1011110 01I 000001100 SSSSSSSSS	193	.
LOC PA/PB/PTRA/PTRB,#{\}A	Math and Logic	EEEE 11101WW RAA AAAAAAAAAA AAAAAAAAAA	407	.
LOCKNEW D {WC}	Hub Control - Locks	EEEE 1101011 C00 DDDDDDDDD 000000100	244	.
LOCKREL {#}D {WC}	Hub Control - Locks	EEEE 1101011 C0L DDDDDDDDD 000000111	247	.
LOCKRET {#}D	Hub Control - Locks	EEEE 1101011 00L DDDDDDDDD 000000101	245	.
LOCKTRY {#}D {WC}	Hub Control - Locks	EEEE 1101011 C0L DDDDDDDDD 000000110	246	.
MERGE B D	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001100001	382	.
MERGE W D	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001100011	384	.
MIXPIX D, {#}S	Pixel Mixer	EEEE 1010010 11I DDDDDDDDD SSSSSSSSS	144	.
MODC c {WC}	Math and Logic	EEEE 1101011 C01 0cccc0000 001101111	398	alias
MODCZ c, z {WC/WZ/WCZ}	Math and Logic	EEEE 1101011 CZ1 0cccczzzz 001101111	397	.
MODZ z {WZ}	Math and Logic	EEEE 1101011 0Z1 00000zzzz 001101111	399	alias
MOV D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0110000 CZI DDDDDDDDD SSSSSSSSS	58	.
MOVBYTS D, {#}S	Math and Logic	EEEE 1001111 11I DDDDDDDDD SSSSSSSSS	136	.
MUL D, {#}S {WZ}	Math and Logic	EEEE 1010000 0ZI DDDDDDDDD SSSSSSSSS	137	.
MULPIX D, {#}S	Pixel Mixer	EEEE 1010010 01I DDDDDDDDD SSSSSSSSS	142	.
MULS D, {#}S {WZ}	Math and Logic	EEEE 1010000 1ZI DDDDDDDDD SSSSSSSSS	138	.
MUXC D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0101100 CZI DDDDDDDDD SSSSSSSSS	54	.
MUXNC D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0101101 CZI DDDDDDDDD SSSSSSSSS	55	.
MUXNIBS D, {#}S	Math and Logic	EEEE 1001111 01I DDDDDDDDD SSSSSSSSS	134	.
MUXNITS D, {#}S	Math and Logic	EEEE 1001111 00I DDDDDDDDD SSSSSSSSS	133	.
MUXNZ D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0101111 CZI DDDDDDDDD SSSSSSSSS	57	.
MUXQ D, {#}S	Math and Logic	EEEE 1001111 10I DDDDDDDDD SSSSSSSSS	135	.
MUXZ D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0101110 CZI DDDDDDDDD SSSSSSSSS	56	.

NEG D {WC/WZ/WCZ}	Math and Logic	EEEE 0110011 CZ0 DDDDDDDDD DDDDDDDDD	64	alias
NEG D,{#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0110011 CZI DDDDDDDDD SSSSSSSSS	63	.
NEGC D {WC/WZ/WCZ}	Math and Logic	EEEE 0110100 CZ0 DDDDDDDDD DDDDDDDDD	66	alias
NEGC D,{#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0110100 CZI DDDDDDDDD SSSSSSSSS	65	.
NEGNC D {WC/WZ/WCZ}	Math and Logic	EEEE 0110101 CZ0 DDDDDDDDD DDDDDDDDD	68	alias
NEGNC D,{#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0110101 CZI DDDDDDDDD SSSSSSSSS	67	.
NEGNZ D {WC/WZ/WCZ}	Math and Logic	EEEE 0110111 CZ0 DDDDDDDDD DDDDDDDDD	72	alias
NEGNZ D,{#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0110111 CZI DDDDDDDDD SSSSSSSSS	71	.
NEGZ D {WC/WZ/WCZ}	Math and Logic	EEEE 0110110 CZ0 DDDDDDDDD DDDDDDDDD	70	alias
NEGZ D,{#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0110110 CZI DDDDDDDDD SSSSSSSSS	69	.
NIXINT1	Interrupts	EEEE 1101011 000 000100101 000100100	307	.
NIXINT2	Interrupts	EEEE 1101011 000 000100110 000100100	308	.
NIXINT3	Interrupts	EEEE 1101011 000 000100111 000100100	309	.
NOP	Miscellaneous	0000 0000000 000 000000000 000000000	1	.
NOT D {WC/WZ/WCZ}	Math and Logic	EEEE 0110001 CZ0 DDDDDDDDD DDDDDDDDD	60	alias
NOT D,{#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0110001 CZI DDDDDDDDD SSSSSSSSS	59	.
ONES D {WC/WZ/WCZ}	Math and Logic	EEEE 0111101 CZ0 DDDDDDDDD DDDDDDDDD	80	alias
ONES D,{#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0111101 CZI DDDDDDDDD SSSSSSSSS	79	.
OR D,{#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0101010 CZI DDDDDDDDD SSSSSSSSS	52	.
OUTC {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001001010	359	.
OUTH {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001001001	358	.
OUTL {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001001000	357	.
OUTNC {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001001011	360	.
OUTNOT {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001001111	364	.
OUTNZ {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001001101	362	.
OUTRND {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001001110	363	.
OUTZ {#}D {WCZ}	Pins	EEEE 1101011 CZL DDDDDDDDD 001001100	361	.
POLLATN {WC/WZ/WCZ}	Events - Poll	EEEE 1101011 CZ0 000001110 000100100	285	.
POLLCT1 {WC/WZ/WCZ}	Events - Poll	EEEE 1101011 CZ0 000000001 000100100	272	.
POLLCT2 {WC/WZ/WCZ}	Events - Poll	EEEE 1101011 CZ0 000000010 000100100	273	.
POLLCT3 {WC/WZ/WCZ}	Events - Poll	EEEE 1101011 CZ0 000000011 000100100	274	.
POLLFBW {WC/WZ/WCZ}	Events - Poll	EEEE 1101011 CZ0 000001001 000100100	280	.
POLLINT {WC/WZ/WCZ}	Events - Poll	EEEE 1101011 CZ0 000000000 000100100	271	.
POLLPAT {WC/WZ/WCZ}	Events - Poll	EEEE 1101011 CZ0 000001000 000100100	279	.
POLLQMT {WC/WZ/WCZ}	Events - Poll	EEEE 1101011 CZ0 000001111 000100100	286	.
POLLSE1 {WC/WZ/WCZ}	Events - Poll	EEEE 1101011 CZ0 000000100 000100100	275	.
POLLSE2 {WC/WZ/WCZ}	Events - Poll	EEEE 1101011 CZ0 000000101 000100100	276	.
POLLSE3 {WC/WZ/WCZ}	Events - Poll	EEEE 1101011 CZ0 000000110 000100100	277	.
POLLSE4 {WC/WZ/WCZ}	Events - Poll	EEEE 1101011 CZ0 000000111 000100100	278	.
POLLXFI {WC/WZ/WCZ}	Events - Poll	EEEE 1101011 CZ0 000001011 000100100	282	.

POLLXMT {WC/WZ/WCZ}	Events - Poll	EEEE 1101011 CZ0 000001010 000100100	281	.
POLLXRL {WC/WZ/WCZ}	Events - Poll	EEEE 1101011 CZ0 000001101 000100100	284	.
POLLXRO {WC/WZ/WCZ}	Events - Poll	EEEE 1101011 CZ0 000001100 000100100	283	.
POP D {WC/WZ/WCZ}	Miscellaneous	EEEE 1101011 CZ0 DDDDDDDDD 000101011	316	.
POPA D {WC/WZ/WCZ}	Hub RAM - Read	EEEE 1011000 CZ1 DDDDDDDDD 101011111	155	alias
POPB D {WC/WZ/WCZ}	Hub RAM - Read	EEEE 1011000 CZ1 DDDDDDDDD 111011111	156	alias
PUSH {#}D	Miscellaneous	EEEE 1101011 00L DDDDDDDDD 000101010	315	.
PUSHA {#}D	Hub RAM - Write	EEEE 1100011 0L1 DDDDDDDDD 101100001	224	alias
PUSHB {#}D	Hub RAM - Write	EEEE 1100011 0L1 DDDDDDDDD 111100001	225	alias
QDIV {#}D,{#}S	CORDIC Solver	EEEE 1101000 1LI DDDDDDDDD SSSSSSSSS	236	.
QEXP {#}D	CORDIC Solver	EEEE 1101011 00L DDDDDDDDD 000001111	249	.
QFRAC {#}D,{#}S	CORDIC Solver	EEEE 1101001 0LI DDDDDDDDD SSSSSSSSS	237	.
QLOG {#}D	CORDIC Solver	EEEE 1101011 00L DDDDDDDDD 000001110	248	.
QMUL {#}D,{#}S	CORDIC Solver	EEEE 1101000 0LI DDDDDDDDD SSSSSSSSS	235	.
QROTATE {#}D,{#}S	CORDIC Solver	EEEE 1101010 0LI DDDDDDDDD SSSSSSSSS	239	.
QSQRT {#}D,{#}S	CORDIC Solver	EEEE 1101001 1LI DDDDDDDDD SSSSSSSSS	238	.
QVECTOR {#}D,{#}S	CORDIC Solver	EEEE 1101010 1LI DDDDDDDDD SSSSSSSSS	240	.
RCL D,{#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0000101 CZI DDDDDDDDD SSSSSSSSS	7	.
RCR D,{#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0000100 CZI DDDDDDDDD SSSSSSSSS	6	.
RCZL D {WC/WZ/WCZ}	Math and Logic	EEEE 1101011 CZ0 DDDDDDDDD 001101011	392	.
RCZR D {WC/WZ/WCZ}	Math and Logic	EEEE 1101011 CZ0 DDDDDDDDD 001101010	391	.
RDBYTE D,{#}S/P {WC/WZ/WCZ}	Hub RAM - Read	EEEE 1010110 CZI DDDDDDDDD SSSSSSSSS	152	.
RDFAST {#}D,{#}S	Hub FIFO - New Read	EEEE 1100011 1LI DDDDDDDDD SSSSSSSSS	226	.
RDLONG D,{#}S/P {WC/WZ/WCZ}	Hub RAM - Read	EEEE 1011000 CZI DDDDDDDDD SSSSSSSSS	154	.
RDLUT D,{#}S/P {WC/WZ/WCZ}	Lookup Table	EEEE 1010101 CZI DDDDDDDDD SSSSSSSSS	151	.
RDPIN D,{#}S {WC}	Smart Pins	EEEE 1010100 C1I DDDDDDDDD SSSSSSSSS	150	.
RDWORD D,{#}S/P {WC/WZ/WCZ}	Hub RAM - Read	EEEE 1010111 CZI DDDDDDDDD SSSSSSSSS	153	.
REP {#}D,{#}S	Branch Repeat	EEEE 1100110 1LI DDDDDDDDD SSSSSSSSS	233	.
RESI0	Branch S - Resume	EEEE 1011001 110 111111110 111111111	161	alias
RESI1	Branch S - Resume	EEEE 1011001 110 111110100 111110101	160	alias
RESI2	Branch S - Resume	EEEE 1011001 110 111110010 111110011	159	alias
RESI3	Branch S - Resume	EEEE 1011001 110 111110000 111110001	158	alias
RET {WC/WZ/WCZ}	Branch Return	EEEE 1101011 CZ1 000000000 000101101	319	.
RETA {WC/WZ/WCZ}	Branch Return	EEEE 1101011 CZ1 000000000 000101110	321	.
RETB {WC/WZ/WCZ}	Branch Return	EEEE 1101011 CZ1 000000000 000101111	323	.
RETI0	Branch S - Return	EEEE 1011001 110 111111111 111111111	165	alias
RETI1	Branch S - Return	EEEE 1011001 110 111111111 111110101	164	alias
RETI2	Branch S - Return	EEEE 1011001 110 111111111 111110011	163	alias
RETI3	Branch S - Return	EEEE 1011001 110 111111111 111110001	162	alias
REV D	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001101001	390	.

RFBYTE D {WC/WZ/WCZ}	Hub FIFO - Read	EEEE 1101011 CZ0 DDDDDDDDD 000010000	250	.
RFLONG D {WC/WZ/WCZ}	Hub FIFO - Read	EEEE 1101011 CZ0 DDDDDDDDD 000010010	252	.
RFVAR D {WC/WZ/WCZ}	Hub FIFO - Read	EEEE 1101011 CZ0 DDDDDDDDD 000010011	253	.
RFVARS D {WC/WZ/WCZ}	Hub FIFO - Read	EEEE 1101011 CZ0 DDDDDDDDD 000010100	254	.
RWORD D {WC/WZ/WCZ}	Hub FIFO - Read	EEEE 1101011 CZ0 DDDDDDDDD 000010001	251	.
RGBEXP D	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001100111	388	.
RGBSQZ D	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001100110	387	.
ROL D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0000001 CZI DDDDDDDDD SSSSSSSSS	3	.
ROLBYTE D	Math and Logic	EEEE 1001000 000 DDDDDDDDD 000000000	95	alias
ROLBYTE D, {#}S, #N	Math and Logic	EEEE 1001000 NNI DDDDDDDDD SSSSSSSSS	94	.
ROLNIB D	Math and Logic	EEEE 1000100 000 DDDDDDDDD 000000000	89	alias
ROLNIB D, {#}S, #N	Math and Logic	EEEE 100010N NNI DDDDDDDDD SSSSSSSSS	88	.
ROLWORD D	Math and Logic	EEEE 1001010 000 DDDDDDDDD 000000000	101	alias
ROLWORD D, {#}S, #N	Math and Logic	EEEE 1001010 ONI DDDDDDDDD SSSSSSSSS	100	.
ROR D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0000000 CZI DDDDDDDDD SSSSSSSSS	2	.
RQPIN D, {#}S {WC}	Smart Pins	EEEE 1010100 C0I DDDDDDDDD SSSSSSSSS	149	.
SAL D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0000111 CZI DDDDDDDDD SSSSSSSSS	9	.
SAR D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0000110 CZI DDDDDDDDD SSSSSSSSS	8	.
SCA D, {#}S {WZ}	Math and Logic	EEEE 1010001 0ZI DDDDDDDDD SSSSSSSSS	139	.
SCAS D, {#}S {WZ}	Math and Logic	EEEE 1010001 1ZI DDDDDDDDD SSSSSSSSS	140	.
SETBYTE {#}S	Math and Logic	EEEE 1000110 00I 000000000 SSSSSSSSS	91	alias
SETBYTE D, {#}S, #N	Math and Logic	EEEE 1000110 NNI DDDDDDDDD SSSSSSSSS	90	.
SETCFRQ {#}D	Color Space Converter	EEEE 1101011 00L DDDDDDDDD 000111011	336	.
SETCI {#}D	Color Space Converter	EEEE 1101011 00L DDDDDDDDD 000111001	334	.
SETCMOD {#}D	Color Space Converter	EEEE 1101011 00L DDDDDDDDD 000111100	337	.
SETCQ {#}D	Color Space Converter	EEEE 1101011 00L DDDDDDDDD 000111010	335	.
SETCY {#}D	Color Space Converter	EEEE 1101011 00L DDDDDDDDD 000111000	333	.
SETD D, {#}S	Math and Logic	EEEE 1001101 10I DDDDDDDDD SSSSSSSSS	125	.
SETDACS {#}D	Smart Pins	EEEE 1101011 00L DDDDDDDDD 000011100	263	.
SETINT1 {#}D	Interrupts	EEEE 1101011 00L DDDDDDDDD 000100101	310	.
SETINT2 {#}D	Interrupts	EEEE 1101011 00L DDDDDDDDD 000100110	311	.
SETINT3 {#}D	Interrupts	EEEE 1101011 00L DDDDDDDDD 000100111	312	.
SETLUTS {#}D	Lookup Table	EEEE 1101011 00L DDDDDDDDD 000110111	332	.
SETNIB {#}S	Math and Logic	EEEE 1000000 00I 000000000 SSSSSSSSS	85	alias
SETNIB D, {#}S, #N	Math and Logic	EEEE 100000N NNI DDDDDDDDD SSSSSSSSS	84	.
SETPAT {#}D, {#}S	Events - Configuration	EEEE 1011111 1LI DDDDDDDDD SSSSSSSSS	215	.
SETPIV {#}D	Pixel Mixer	EEEE 1101011 00L DDDDDDDDD 000111101	338	.
SETPIX {#}D	Pixel Mixer	EEEE 1101011 00L DDDDDDDDD 000111110	339	.
SETQ {#}D	Miscellaneous	EEEE 1101011 00L DDDDDDDDD 000101000	313	.
SETQ2 {#}D	Miscellaneous	EEEE 1101011 00L DDDDDDDDD 000101001	314	.

SETR D, {#}S	Math and Logic	EEEE 1001101 01I DDDDDDDDD SSSSSSSSS	124	.
SETS D, {#}S	Math and Logic	EEEE 1001101 11I DDDDDDDDD SSSSSSSSS	126	.
SETSCP {#}D	Smart Pins	EEEE 1101011 00L DDDDDDDDD 001110000	400	.
SETSE1 {#}D	Events - Configuration	EEEE 1101011 00L DDDDDDDDD 000100000	267	.
SETSE2 {#}D	Events - Configuration	EEEE 1101011 00L DDDDDDDDD 000100001	268	.
SETSE3 {#}D	Events - Configuration	EEEE 1101011 00L DDDDDDDDD 000100010	269	.
SETSE4 {#}D	Events - Configuration	EEEE 1101011 00L DDDDDDDDD 000100011	270	.
SETWORD {#}S	Math and Logic	EEEE 1001001 00I 000000000 SSSSSSSSS	97	alias
SETWORD D, {#}S, #N	Math and Logic	EEEE 1001001 0NI DDDDDDDDD SSSSSSSSS	96	.
SETXFRQ {#}D	Streamer	EEEE 1101011 00L DDDDDDDDD 000011101	264	.
SEUSSF D	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001100100	385	.
SEUSSR D	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001100101	386	.
SHL D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0000011 CZI DDDDDDDDD SSSSSSSSS	5	.
SHR D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0000010 CZI DDDDDDDDD SSSSSSSSS	4	.
SIGNX D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0111011 CZI DDDDDDDDD SSSSSSSSS	76	.
SKIP {#}D	Branch D - Skip	EEEE 1101011 00L DDDDDDDDD 000110001	325	.
SKIPF {#}D	Branch D - Jump+Skip	EEEE 1101011 00L DDDDDDDDD 000110010	326	.
SPLITB D	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001100000	381	.
SPLITW D	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001100010	383	.
STALLI	Interrupts	EEEE 1101011 000 000100001 000100100	303	.
SUB D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0001100 CZI DDDDDDDDD SSSSSSSSS	14	.
SUBR D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0010110 CZI DDDDDDDDD SSSSSSSSS	24	.
SUBS D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0001110 CZI DDDDDDDDD SSSSSSSSS	16	.
SUBSX D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0001111 CZI DDDDDDDDD SSSSSSSSS	17	.
SUBX D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0001101 CZI DDDDDDDDD SSSSSSSSS	15	.
SUMC D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0011100 CZI DDDDDDDDD SSSSSSSSS	30	.
SUMNC D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0011101 CZI DDDDDDDDD SSSSSSSSS	31	.
SUMNZ D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0011111 CZI DDDDDDDDD SSSSSSSSS	33	.
SUMZ D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0011110 CZI DDDDDDDDD SSSSSSSSS	32	.
TEST D {WC/WZ/WCZ}	Math and Logic	EEEE 0111110 CZ0 DDDDDDDDD DDDDDDDDD	82	alias
TEST D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0111110 CZI DDDDDDDDD SSSSSSSSS	81	.
TESTB D, {#}S ANDC/ANDZ	Math and Logic	EEEE 0100010 CZI DDDDDDDDD SSSSSSSSS	36	.
TESTB D, {#}S ORC/ORZ	Math and Logic	EEEE 0100100 CZI DDDDDDDDD SSSSSSSSS	38	.
TESTB D, {#}S WC/WZ	Math and Logic	EEEE 0100000 CZI DDDDDDDDD SSSSSSSSS	34	.
TESTB D, {#}S XORC/XORZ	Math and Logic	EEEE 0100110 CZI DDDDDDDDD SSSSSSSSS	40	.
TESTBN D, {#}S ANDC/ANDZ	Math and Logic	EEEE 0100011 CZI DDDDDDDDD SSSSSSSSS	37	.
TESTBN D, {#}S ORC/ORZ	Math and Logic	EEEE 0100101 CZI DDDDDDDDD SSSSSSSSS	39	.
TESTBN D, {#}S WC/WZ	Math and Logic	EEEE 0100001 CZI DDDDDDDDD SSSSSSSSS	35	.
TESTBN D, {#}S XORC/XORZ	Math and Logic	EEEE 0100111 CZI DDDDDDDDD SSSSSSSSS	41	.
TESTN D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0111111 CZI DDDDDDDDD SSSSSSSSS	83	.

TESTP {#}D ANDC/ANDZ	Pins	EEEE 1101011 CZL DDDDDDDDD 001000010	343	.
TESTP {#}D ORC/ORZ	Pins	EEEE 1101011 CZL DDDDDDDDD 001000100	345	.
TESTP {#}D WC/WZ	Pins	EEEE 1101011 CZL DDDDDDDDD 001000000	341	.
TESTP {#}D XORC/XORZ	Pins	EEEE 1101011 CZL DDDDDDDDD 001000110	347	.
TESTPN {#}D ANDC/ANDZ	Pins	EEEE 1101011 CZL DDDDDDDDD 001000011	344	.
TESTPN {#}D ORC/ORZ	Pins	EEEE 1101011 CZL DDDDDDDDD 001000101	346	.
TESTPN {#}D WC/WZ	Pins	EEEE 1101011 CZL DDDDDDDDD 001000001	342	.
TESTPN {#}D XORC/XORZ	Pins	EEEE 1101011 CZL DDDDDDDDD 001000111	348	.
TJF D, {#}S	Branch S - Test	EEEE 1011101 00I DDDDDDDDD SSSSSSSSS	176	.
TJNF D, {#}S	Branch S - Test	EEEE 1011101 01I DDDDDDDDD SSSSSSSSS	177	.
TJNS D, {#}S	Branch S - Test	EEEE 1011101 11I DDDDDDDDD SSSSSSSSS	179	.
TJNZ D, {#}S	Branch S - Test	EEEE 1011100 11I DDDDDDDDD SSSSSSSSS	175	.
TJS D, {#}S	Branch S - Test	EEEE 1011101 10I DDDDDDDDD SSSSSSSSS	178	.
TJV D, {#}S	Branch S - Test	EEEE 1011110 00I DDDDDDDDD SSSSSSSSS	180	.
TJZ D, {#}S	Branch S - Test	EEEE 1011100 10I DDDDDDDDD SSSSSSSSS	174	.
TRGINT1	Interrupts	EEEE 1101011 000 000100010 000100100	304	.
TRGINT2	Interrupts	EEEE 1101011 000 000100011 000100100	305	.
TRGINT3	Interrupts	EEEE 1101011 000 000100100 000100100	306	.
WAITATN {WC/WZ/WCZ}	Events - Wait	EEEE 1101011 CZ0 000011110 000100100	301	.
WAITCT1 {WC/WZ/WCZ}	Events - Wait	EEEE 1101011 CZ0 000010001 000100100	288	.
WAITCT2 {WC/WZ/WCZ}	Events - Wait	EEEE 1101011 CZ0 000010010 000100100	289	.
WAITCT3 {WC/WZ/WCZ}	Events - Wait	EEEE 1101011 CZ0 000010011 000100100	290	.
WAITFBW {WC/WZ/WCZ}	Events - Wait	EEEE 1101011 CZ0 000011001 000100100	296	.
WAITINT {WC/WZ/WCZ}	Events - Wait	EEEE 1101011 CZ0 000010000 000100100	287	.
WAITPAT {WC/WZ/WCZ}	Events - Wait	EEEE 1101011 CZ0 000011000 000100100	295	.
WAITSE1 {WC/WZ/WCZ}	Events - Wait	EEEE 1101011 CZ0 000010100 000100100	291	.
WAITSE2 {WC/WZ/WCZ}	Events - Wait	EEEE 1101011 CZ0 000010101 000100100	292	.
WAITSE3 {WC/WZ/WCZ}	Events - Wait	EEEE 1101011 CZ0 000010110 000100100	293	.
WAITSE4 {WC/WZ/WCZ}	Events - Wait	EEEE 1101011 CZ0 000010111 000100100	294	.
WAITX {#}D {WC/WZ/WCZ}	Miscellaneous	EEEE 1101011 00L DDDDDDDDD 000011111	266	.
WAITXFI {WC/WZ/WCZ}	Events - Wait	EEEE 1101011 CZ0 000011011 000100100	298	.
WAITXMT {WC/WZ/WCZ}	Events - Wait	EEEE 1101011 CZ0 000011010 000100100	297	.
WAITXRL {WC/WZ/WCZ}	Events - Wait	EEEE 1101011 CZ0 000011101 000100100	300	.
WAITXRO {WC/WZ/WCZ}	Events - Wait	EEEE 1101011 CZ0 000011100 000100100	299	.
WFBYTE {#}D	Hub FIFO - Write	EEEE 1101011 00L DDDDDDDDD 000010101	255	.
WFLONG {#}D	Hub FIFO - Write	EEEE 1101011 00L DDDDDDDDD 000010111	257	.
WFWORD {#}D	Hub FIFO - Write	EEEE 1101011 00L DDDDDDDDD 000010110	256	.
WMLONG D, {#}S/P	Hub RAM - Write	EEEE 1010011 11I DDDDDDDDD SSSSSSSSS	148	.
WRBYTE {#}D, {#}S/P	Hub RAM - Write	EEEE 1100010 0LI DDDDDDDDD SSSSSSSSS	221	.
WRC D	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001101100	393	.

WRFast {#}D, {#}S	Hub FIFO - New Write	EEEE 1100100 0LI DDDDDDDDD SSSSSSSSS	227	.
WRLong {#}D, {#}S/P	Hub RAM - Write	EEEE 1100011 0LI DDDDDDDDD SSSSSSSSS	223	.
WRLUT {#}D, {#}S/P	Lookup Table	EEEE 1100001 1LI DDDDDDDDD SSSSSSSSS	220	.
WRNC D	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001101101	394	.
WRNZ D	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001101111	396	.
WRPIN {#}D, {#}S	Smart Pins	EEEE 1100000 0LI DDDDDDDDD SSSSSSSSS	217	.
WRWORD {#}D, {#}S/P	Hub RAM - Write	EEEE 1100010 1LI DDDDDDDDD SSSSSSSSS	222	.
WRZ D	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001101110	395	.
WXPIN {#}D, {#}S	Smart Pins	EEEE 1100000 1LI DDDDDDDDD SSSSSSSSS	218	.
WYPIN {#}D, {#}S	Smart Pins	EEEE 1100001 0LI DDDDDDDDD SSSSSSSSS	219	.
XCONT {#}D, {#}S	Streamer	EEEE 1100110 0LI DDDDDDDDD SSSSSSSSS	232	.
XINIT {#}D, {#}S	Streamer	EEEE 1100101 0LI DDDDDDDDD SSSSSSSSS	229	.
XOR D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0101011 CZI DDDDDDDDD SSSSSSSSS	53	.
XORO32 D	Math and Logic	EEEE 1101011 000 DDDDDDDDD 001101000	389	.
XSTOP	Streamer	EEEE 1100101 011 00000000 00000000	230	alias
XZERO {#}D, {#}S	Streamer	EEEE 1100101 1LI DDDDDDDDD SSSSSSSSS	231	.
ZEROX D, {#}S {WC/WZ/WCZ}	Math and Logic	EEEE 0111010 CZI DDDDDDDDD SSSSSSSSS	75	.
			410	