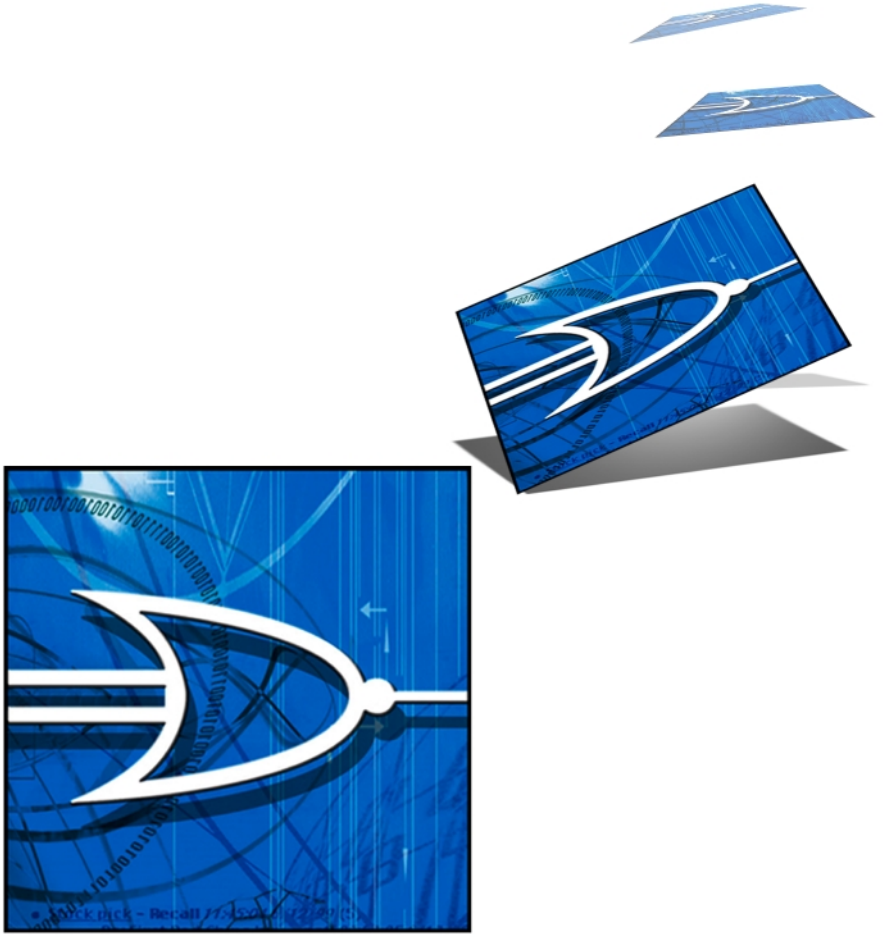
Standard Logic

The Complete CMOS Logic Source



Selection Guide

STMicroelectronics

More Intelligent Solutions

FUNCTION SELECTOR

FUNCTION		HC/HCT,AC/ACT,VHC/VHCT, LCX,LVQ,LVX,VCX, LVC,V2G,V2T, V1G,V1T STANDARD CODE	CMOS 4000B STANDARD CODE
GATE BUFFER	NAND	00, 03, 10, 30, 133	4011B, 4012B, 4023B, 4068B, 40107B
	NOR	02, 27, 4002	4000B, 4001B, 4002B, 4025B
	AND	08, 09, 11, 21	4068B, 4073B, 4081B, 4082B
	OR	32, 4072, 4075	4071B, 4072B, 4075B
	EX NOR	266, 7266	4077B
	EX OR	86, 386	4030B, 4070B
	INVERTER	04, 05, 14	4069UB, 4502B
	BUFFER	07, 4049, 4050, 7007	4007UB, 4009UB, 4010B, 4041UB 4049UB, 4050B, 4052B, 40107B
	3-STATE	125,126, 240, 241, 244, 365, 366, 367, 368, 540, 541	4503B
	16-32 BIT	16240, 16244, 16541, 32240, 32244	
	BIDIRECTIONAL	242, 243, 245, 620, 623, 640, 643 4245, 3245, C4245, C3245	
	16-32 BIT	16245, 162245, HR162245, 32245, 322245	
	MULTIFUCTION	51, 4078	4019B, 4030B, 4048B, 4070B, 4077B
	SCHMITT TRIGGER	14, 132	4093B, 40106B
FLIP - FLOP	J-K FLIP-FLOP	73, 76, 107, 109, 112, 113	4027B, 4095B, 4096B
	D FLIP-FLOP	74, 79, 80, 174, 175, 273, 377	4013B, 4076B, 40174B
	3-STATE	374, 534, 564, 574, 646, 648, 651, 652	
	16-32BIT	16374, 32374	
INTERFACE CIRCUIT			4009UB, 4010UB, 40109B
LATCH		75, 77, 259, 279, 375, 7259	4042B, 4043B, 4044B, 4099B,4720B
	3-STATE	373, 533, 563, 573	
	16-32BIT	16373, 32373	
MULTIVIBRATOR		123, 221, 423, 4538	4047B, 4098B, 4538B
DECODER		42, 131, 137, 138, 139, 154, 155, 237, 238, 4028, 4514, 4515	4028B, 4514B, 4515B, 4555B,4556B
	7-SEGMENT	4511, 4543	
ENCODER		147, 148	4532B, 40147B
DISPLAY DRIVER			4054B, 4055B, 4056B, 4511B, 4543B
	WITH COUNTER		4026B, 4033B, 40110B
REGISTER		164, 165, 166, 194, 195, 595, 597, 289, 299	4006B, 4014B, 4015B, 4021B,4031B, 4034B, 4035B, 4017B, 40100B, 4076B, 4099B, 40104B, 40105B, 40108B, 40194B, 40208B
	3-STATE	173, 299, 323, 670, 4094	4094B, 4517B
COUNTER	BINARY	161, 163, 191,193, 393, 590, 592, 593, 691, 693, 697, 699, 4020, 4024, 4040, 4060, 4520	4017B, 4020B, 4024B, 4039B, 4040B 4060B, 4516B, 4520B, 4536B, 4541B, 40103B, 40161B, 40163B, 40193B
	DECADE	160, 162, 190, 192, 390, 690, 692, 696, 698, 4518	4029B, 4510B, 4518B, 40102B, 40160B, 40162B, 40192B
	DIVIDER	292, 4017, 4022, 40102, 40103, 7292, 7294	4017B, 4018B, 4022B, 4024B, 4040B, 4045B, 4060B, 4521B
MULTIPLEXER/ DEMULTIPLEXER	ANALOG	4016, 4066, 4051, 4052, 4053, 4316, 4351, 4352, 4353, 4851, 4852	4016B, 4066B, 4051B, 4052B, 4053B, 4067B, 4097B
	DIGITAL	151, 153, 157, 158, 257, 352, 353, 354, 356	4019B, 4512B, 4519B, 4555B, 4556B, 40257B
SWITCH	ANALOG	66, 67, 384, 719, 3157, 3699, 4066	4066, 4053
PHASE LOCKED LOOP			4046B
CROSSPOINT SWITCH	4X4		22100
OTHERS	ADDER	283	4008B, 4032B, 4038B
	COMPARATOR	85, 688	4030B,4063B,4070B,4077B,4585B,40101B
	ALU/MULTIPLEXER	181, 182	4089B, 4527B, 40181B, 40182B
	PARITY TREE	280	

MORE THAN 700 FUNCTIONS

STANDARD DEVICES WITH THE RIGHT Vcc

1.65 to 3.6V	ALVC	1.65V to 3.6V, 3.6V I/O tolerant
1.8V to 3.6V	VCX	1.8V to 3.6V, 3.6V I/O tolerant
3.3V	LVC	1.65V to 3.6V, 5V I/O tolerant
	LCX	2V to 3.6V, 5V I/O tolerant
	LVX	2V to 3.6V, 5V Input tolerant
	LVQ	2V to 3.6V
5V	HC	2V to 6V
	HCT	4.5V to 5.5V
	AC	2V to 6V
	ACT	4.5V to 5.5V
	VHC	2V to 5.5V, low noise
	VHCT	4.5V to 5.5V, low noise
	CMOS 4000B	3V to 18V

APPLICATION SPECIFIC STANDARD DEVICES

Automotive / Industrial

STPIC6C595	8-bit power logic shift register
STPIC6A259	8-bit power logic adressable latch
STPIC44L02	low side pre-FET driver
STP16C596	16-bit led sink driver (coming soon)

Telecom

STM7E1A	7 E1 Channel Switch Array, 2Ω
74GTL1655	16-bit LVTTL to GTL/GTL + universal bus transceiver with live insertion
74ACT8244	relay driver for line card

Printer Peripherals IEEE

74ACT1284	high-speed transceiver
74LVC/Z161284A	3V high-speed 16-bit transceiver

Set-Top-Box

74ACT32701	16-bit D-type latch / 16-bit bus transceiver

SINGLE / DUAL GATES & SWITCHES

HC: H1G single switch, 2 to 12V

VHC: V1G single gates & switches, 2 to 5.5V
V2G dual gates & switches, 2 to 5.5V

VHCT: V1T single gates & switches, 4.5 to 5.5V
V2T dual gates & switches, 4.5 to 5.5V

LCX: LX1G single gate logic, 1.65 to 5.5V

B5S: bus switch, 4 to 5.5V

B3S: bus switch, 2.3 to 3.6V

COMPLIANCE TO AUTOMOTIVE REQUIREMENTS

- High quality standards
- Wide portfolio
- Extended temperature range (-55°C to +125°C)
- Dice delivery
- Long term vision
- Reliability and consistency

VCX VERY HIGH SPEED, LOW VOLTAGE
With 3.6V Input/Output Tolerance

SYMBOL	PARAMETER	VALUE	UNIT
Vcc	Supply Voltage	1.8 to 3.6	V
Vi	Input Voltage	0 to 3.6	V
Top	Operating Temperature	-55 to 125	°C
Io	Output Current: @ Vcc=3V	24	mA
	@ Vcc= 2.3V	18	mA
	@ Vcc= 1.8V	6	mA
tpd	Delay Time @Vcc= 2.3V	3.2(max)*	ns

* Referred to 74VCX16244

DEVICE	TSSOP (T&R)
BASIC TYPE	74VCX16xxxTTR
BUS HOLD	74VCXH16xxxTTR
OUTPUT RESISTORS	74VCX162xxxTTR
OUT. RES. ON BOTH SIDES	74VCXR162xxxTTR
BUS HOLD + OUT.RES.	74VCXH162xxxTTR

DEVICE	LFBGA96
BUS HOLD	74VCXH32xxxLB

F	TYPE		PIN
16 BIT	74VCX	16240	48
16 BIT	74VCX	162240	48
16 BIT	74VCXH	16240	48
16 BIT	74VCXH	162240	48
16 BIT	74VCX	16244	48/54
16 BIT	74VCX	162244	48
16 BIT	74VCXH	16244	48
16 BIT	74VCXH	162244	48
16 BIT	74VCX	16245	48/54
16 BIT	74VCX	162245	48
16 BIT	74VCXR	162245	48
16 BIT	74VCXH	16245	48
16 BIT	74VCXH	162245	48

F	TYPE		PIN
16 BIT	74VCX	16373	48
16 BIT	74VCX	162373	48
16 BIT	74VCXH	16373	48
16 BIT	74VCXH	162373	48
16 BIT	74VCX	16374	48
16 BIT	74VCX	162374	48
16 BIT	74VCXH	162374	48
16 BIT	74VCXH	16374	48
32 BIT	74VCXH	32240	96
32 BIT	74VCXH	32244	96
32 BIT	74VCXH	32245	96
32 BIT	74VCXH	32373	96
32 BIT	74VCXH	32374	96

Note: 48 pin = TSSOP, 54 pin = TFBGA, 96 pin = LFBGA

ALVC ADVANCED LOW VOLTAGE
With 3.6V Input/Output Tolerance

F	TYPE		PIN
16 bit	74ALVC	H16240	48
16 bit	74ALVC	H162240	48
16 bit	74ALVC	H16244	48
16 bit	74ALVC	H162244	48
16 bit	74ALVC	H16245	48
16 bit	74ALVC	H162245	48
16 bit	74ALVC	HR162245	48
16 bit	74ALVC	H16373	48
16 bit	74ALVC	H162373	48
16 bit	74ALVC	H16374	48
16 bit	74ALVC	H162374	48
16 bit	74ALVC	R162245	48
32 bit	74ALVC	H32244	96
32 bit	74ALVC	H32245	96
32 bit	74ALVC	H32373	96
32 bit	74ALVC	H32374	96

SYMBOL	PARAMETER	VALUE	UNIT
Vcc	Supply Voltage	1.65 to 3.6	V
Vi	Input Voltage	0 to 3.6	V
Top	Operating Temperature	-55 to 125	°C
Io	Output Current:		
	@ Vcc=3V	24	mA
	@ Vcc= 2.3, 2.7V	12	mA
	@ Vcc= 1.65V	4	mA
tpd	Delay Time @Vcc= 2.3V	3.2 (max)	ns

DEVICE	ORDER CODE
BUS HOLD	74ALVCH16xxxT
BUS HOLD+OUT.RES. ON "A" SIDE	74ALVCH162xxxT
BUS HOLD+OUT.RES. ON "B" SIDE	74ALVCHR16245T
BUS HOLD+OUT.RES.ON BOTH SIDES	74ALVCHR162245T
32 BIT WITH BUS HOLD	74ALVCH32XXXLB

LCX LOW VOLTAGE
With 5V Input/Output Tolerance

SYMBOL	PARAMETER	VALUE	UNIT
Vcc	Supply Voltage	2.7 to 3.6	V
Vi	Input Voltage	0 to 5.5	V
Top	Operating Temperature	-55 to 125	°C
Io	Output Current	24	mA
tpd	Delay Time @Vcc = 3.3V	4 (typ)*	ns

* Referred to octal device

PACKAGE	ORDER CODE
SO (tube)	74LCXxxxM
SO (T&R)	74LCXxxxMTR
TSSOP (T&R) Basic Type	74LCXxxxTTR
TSSOP (T&R) Output Resistors	74LCX162xxxTTR
TSSOP (T&R) Bus Hold + Out. Res	74LCXH162xxxTTR

F	TYPE		PIN
G	74LCX	00	14
G	74LCX	02	14
G	74LCX	04	14
G	74LCX	05	14
G	74LCX	U04	14
G	74LCX	07	14
G	74LCX	08	14
S	74LCX	14	14
G	74LCX	32	14
S	74LCX	74	14
S	74LCX	86	14
S	74LCX	125	14
M	74LCX	138	16
M	74LCX	139	16
M	74LCX	157	16
O	74LCX	240	20
O	74LCX	244	20
O	74LCX	245	20
M	74LCX	257	16
O	74LCX	373	20

F	TYPE		PIN
O	74LCX	374	20
O	74LCX	540	20
O	74LCX	541	20
O	74LCX	573	20
O	74LCX	574	20
O	74LCX	646	20
O	74LCX	652	20
16BIT	74LCX	16240	48
16BIT	74LCX	16244	48
16BIT	74LCX	16245	48
16BIT	74LCXH	16245	48
16BIT	74LCX	16373	48
16BIT	74LCX	16374	48
16BIT	74LCX	16541	48
16BIT	74LCX	162244	48
16BIT	74LCXH	162244	48
16BIT	74LCXH	162245	48
16BIT	74LCXR	162245	48
16BIT	74LCXHR	162245	48
16BIT	74LCX	162541	48

F: Function; G: Gate; S: Small Scale Integration; M: Medium Scale Integration; O: Octal.

LVX LOW VOLTAGE
With 5V Input Tolerance

SYMBOL	PARAMETER	VALUE	UNIT
Vcc	Supply Voltage	2 to 3.6	V
Vi	Input Voltage	0 to 5.5	V
Top	Operating Temperature	-55 to 125	°C
Io	Output Current	4	mA
tpd	Delay Time	4.7 (typ)*	ns

* Referred to octal device

PACKAGE	ORDER CODE
SO (tube)	74LVXxxxM
SO (T&R)	74LVXxxxMTR
TSSOP (T&R)	74LVXxxxxxTTR

F	TYPE		PIN
G	74LVX	00	14
G	74LVX	02	14
G	74LVX	03	14
G	74LVX	04	14
G	74LVX	U04	14
G	74LVX	05	14
G	74LVX	08	14
S	74LVX	14	14
G	74LVX	20	14
G	74LVX	27	14
G	74LVX	32	14
S	74LVX	74	14
S	74LVX	86	14
S	74LVX	125	14
S	74LVX	126	14
S	74LVX	132	14
M	74LVX	138	16
M	74LVX	139	16

F	TYPE		PIN
M	74LVX	157	16
M	74LVX	174	16
M	74LVX	238	16
O	74LVX	240	20
O	74LVX	244	20
O	74LVX	245	20
O	74LVX	257	16
O	74LVX	273	20
O	74LVX	373	20
O	74LVX	374	20
O	74LVX	541	20
O	74LVX	573	20
O	74LVX	574	20
16BIT	74LVX	16240	48
16BIT	74LVX	16244	48
16BIT	74LVX	16245	48
16BIT	74LVX	16373	48
16BIT	74LVX	16374	48

F: Function; G: Gate; S: Small Scale Integration; M: Medium Scale Integration; O: Octal.

LVC LOW VOLTAGE
With 5V Input / Output Tolerance

F	TYPE		PIN
G	74LVC	00A	14
G	74LVC	04A	14
G	74LVC	U04A	14
G	74LVC	08A	14
S	74LVC	14A	14
G	74LVC	32A	14
S	74LVC	86A	14
S	74LVC	125A	14
O	74LVC	244A	20
O	74LVC	245A	20
O	74LVC	373A	20
O	74LVC	541A	20
O	74LVC	573A	20
16 bit	74LVC	161284	48
16 bit	74LVCZ	161284A	48

F: Function; G: Gate; S: Small Scale Integration; O: Octal.

SYMBOL	PARAMETER	VALUE	UNIT
Vcc	Supply Voltage	1.65 to 3.6	V
Vi	Input Voltage	1.65 to 5.5	V
Top	Operating Temperature	-55 to 125	°C
Io	Output Current	24	mA
tpd	Delay Time	3 (typ)*	ns

* Referred to octal device

PACKAGE	ORDER CODE
SO (tube)	74LVCxxxAM
SO (T&R)	74LVCxxxAMTR
TSSOP (T&R)	74LVCxxxATTR

LVQ LOW VOLTAGE

SYMBOL	PARAMETER	VALUE	UNIT
Vcc	Supply Voltage	2 to 3.6	V
Vi	Input Voltage	0 to Vcc	V
Top	Operating Temperature	-55 to 125	°C
Io	Output Current	12	mA
tpd	Delay Time @ Vcc= 3.3V	5 (typ)*	ns

* Referred to 74LVQ244

PACKAGE	ORDER CODE
SO (tube)	74LVQxxxxM
SO (T&R)	74LVQxxxxMTR
TSSOP (T&R)	74LVQxxxxTTR

F	TYPE		PIN
G	74LVQ	00	14
G	74LVQ	02	14
G	74LVQ	04	14
G	74LVQ	08	14
G	74LVQ	10	14
G	74LVQ	11	14
S	74LVQ	14	14
G	74LVQ	20	14
G	74LVQ	32	14
S	74LVQ	74	14
S	74LVQ	86	14
S	74LVQ	125	14
M	74LVQ	138	16
M	74LVQ	157	16
M	74LVQ	158	16
M	74LVQ	161	16

F	TYPE		PIN
M	74LVQ	163	16
M	74LVQ	174	16
O	74LVQ	240	20
O	74LVQ	241	20
O	74LVQ	244	20
O	74LVQ	245	20
O	74LVQ	273	20
M	74LVQ	280	14
O	74LVQ	299	20
O	74LVQ	373	20
O	74LVQ	374	20
O	74LVQ	541	20
O	74LVQ	573	20
O	74LVQ	574	20
S	74LVQ	4066	14

F: Function; G: Gate; S: Small Scale Integration; M: Medium Scale Integration; O: Octal.

HC, HCT HIGH SPEED CMOS

SYMBOL	PARAMETER	VALUE	UNIT
Vcc	Supply Voltage: HC series	2 to 6	V
	HCT series	4.5 to 5.5	V
Vi	Input Voltage	0 to Vcc	V
Top	Operating Temperature	-55 to 125	°C
Io	Output Current @ Vcc=5V	4	mA
tpd	Delay Time @ Vcc=4.5V CL=50pF	12 (typ)*	ns

* Referred to M74HC244

PACKAGE	ORDER CODE	
	HC	HCT
DIP (tube)	M74HCxxxB1R	M74HCTxxxB1R
SO (tube)	M74HCxxxM1R	M74HCTxxxM1R
SO (T&R)	M74HCxxxRM13TR	M74HCTxxxRM13TR
TSSOP (T&R)	M74HCxxxTTR	M74HCTxxxTTR

F	TYPE	PIN
G	M74HC 00	14
G	M74HCT 00	14
G	M74HC 02	14
G	M74HCT 02	14
G	M74HC 03	14
G	M74HC 04	14
G	M74HCT 04	14
G	M74HCU 04	14
G	M74HC 05	14
G	M74HCT 05	14
G	M74HC 07	14
G	M74HC 08	14
G	M74HCT 08	14
G	M74HC 09	14
G	M74HC 10	14
G	M74HCT 10	14
G	M74HC 11	14
S	M74HC 14	14
S	M74HCT 14	14
G	M74HC 20	14
G	M74HC 21	14
G	M74HC 27	14
G	M74HCT 27	14
G	M74HC 30	14
G	M74HCT 30	14
G	M74HC 32	14
G	M74HCT 32	14
M	M74HC 42	16
G	M74HC 51	14
S	M74HC 73	14
S	M74HC 74	14
S	M74HCT 74	14
S	M74HC 75	16
S	M74HCT 75	16
S	M74HC 76	16
M	M74HC 77	14
M	M74HC 85	16
S	M74HC 86	14
S	M74HCT 86	14
S	M74HC 107	14
S	M74HC 109	16
S	M74HC 112	16
S	M74HC 113	14
M	M74HC 123	16
M	M74HC 123A	16
S	M74HC 125	14
S	M74HCT 125	14
S	M74HC 126	14
S	M74HCT 126	14
M	M74HC 131	16
S	M74HC 132	14
S	M74HCT 132	14
G	M74HC 133	14
M	M74HC 137	16
M	M74HCT 137	16
M	M74HC 138	16
M	M74HCT 138	16
M	M74HC 139	16

F	TYPE	PIN
M	M74HC 147	16
M	M74HC 148	16
M	M74HC 151	16
M	M74HC 153	16
M	M74HC 154	24
M	M74HC 155	16
M	M74HC 157	16
M	M74HCT 157	16
M	M74HC 158	16
M	M74HCT 158	16
M	M74HC 160	16
M	M74HCT 160	16
M	M74HC 161	16
M	M74HCT 161	16
M	M74HC 162	16
M	M74HCT 162	16
M	M74HC 163	16
M	M74HCT 163	16
M	M74HC 164	14
M	M74HCT 164	14
M	M74HC 165	16
M	M74HCT 165	16
M	M74HC 166	16
M	M74HC 173	16
M	M74HC 174	16
M	M74HCT 174	16
M	M74HC 175	16
M	M74HC 181	24
M	M74HC 182	16
M	M74HC 190	16
M	M74HC 191	16
M	M74HC 192	16
M	M74HC 193	16
M	M74HC 194	16
M	M74HC 195	16
M	M74HC 221	16
M	M74HC 221A	16
M	M74HC 237	16
M	M74HC 238	16
O	M74HC 240	20
O	M74HCT 240	20
O	M74HC 241	20
O	M74HCT 241	20
M	M74HC 242	14
M	M74HC 243	14
O	M74HC 244	20
O	M74HCT 244	20
O	M74HC 245	20
O	M74HCT 245	20
M	M74HC 251	16
M	M74HC 253	16
M	M74HC 257	16
M	M74HCT 257	16
M	M74HC 258	16
M	M74HCT 258	16
M	M74HC 259	16
S	M74HC 266	14
O	M74HC 273	20

F	TYPE	PIN
O	M74HCT 273	20
M	M74HC 279	16
M	M74HC 280	14
M	M74HC 283	16
M	M74HC 292	16
M	M74HC 294	16
M	M74HC 298	16
O	M74HC 299	20
M	M74HC 323	20
M	M74HC 352	16
M	M74HC 353	16
M	M74HC 354	20
M	M74HC 356	20
S	M74HC 365	16
S	M74HC 366	16
S	M74HC 367	16
S	M74HCT 367	16
S	M74HC 368	16
S	M74HCT 368	16
O	M74HC 373	20
O	M74HCT 373	20
O	M74HC 374	20
O	M74HCT 374	20
O	M74HC 375	20
O	M74HC 377	20
S	M74HC 386	14
M	M74HC 390	16
M	M74HC 393	14
M	M74HCT 393	14
M	M74HC 423	16
M	M74HC 423A	16
O	M74HC 533	20
O	M74HCT 533	20
O	M74HC 534	20
O	M74HCT 534	20
O	M74HC 540	20
O	M74HCT 540	20
O	M74HC 541	20
O	M74HCT 541	20
O	M74HC 563	20
O	M74HCT 563	20
O	M74HC 564	20
O	M74HCT 564	20
O	M74HC 573	20
O	M74HCT 573	20
O	M74HC 574	20
O	M74HCT 574	20
M	M74HC 590	16
M	M74HC 592	16
M	M74HC 593	20
M	M74HC 595	16
M	M74HC 597	16
O	M74HC 620	20
O	M74HC 623	20
O	M74HC 640	20
O	M74HCT 640	20
O	M74HC 643	20
O	M74HCT 643	20

F	TYPE	PIN
O	M74HC 646	24
O	M74HCT 646	24
O	M74HC 648	24
O	M74HCT 648	24
O	M74HC 651	24
O	M74HCT 651	24
O	M74HC 652	24
O	M74HCT 652	24
M	M74HC 670	16
M	M74HC 688	20
M	M74HCT 688	20
M	M74HC 690	20
M	M74HC 691	20
M	M74HC 692	20
M	M74HC 693	20
M	M74HC 696	20
M	M74HC 697	20
M	M74HC 698	20
M	M74HC 699	20
G	M74HC 4002	14
S	M74HC 4016	14
M	M74HC 4017	16
M	M74HC 4020	16
M	M74HC 4022	16
M	M74HC 4024	14
M	M74HC 4028	16
M	M74HC 4040	16
S	M74HC 4049	16
S	M74HC 4050	16
M	M74HC 4051	16
M	M74HC 4052	16
M	M74HC 4053	16
M	M74HCT 4053	16
M	M74HC 4060	16
S	M74HC 4066	14
G	M74HC 4072	14
G	M74HC 4075	14
G	M74HC 4078	14
M	M74HC 4094	16
M	M74HC 40102	16
M	M74HC 40103	16
M	M74HC 4316	16
M	M74HC 4351	20
M	M74HC 4352	20
M	M74HC 4353	20
M	M74HC 4511	16
M	M74HC 4514	24
M	M74HC 4515	24
M	M74HC 4518	16
M	M74HC 4520	16
M	M74HC 4538	16
M	M74HC 4543	16
M	M74HC 4851	16
M	M74HC 4852	16
S	M74HCT 7007	14
M	M74HCT 7259	16
S	M74HC 7266	14
M	M74HC 7292	16
M	M74HC 7294	16

F: Function; G: Gate; S: Small Scale Integration; M: Medium Scale Integration; O: Octal.

AC, ACT ADVANCED CMOS LOGIC

SYMBOL	PARAMETER	VALUE	UNIT
Vcc	Supply Voltage: AC series	2 to 6	V
	ACT series	4.5 to 5.5	V
Vi	Input Voltage	0 to Vcc	V
Top	Operating Temperature	-55 to 125	°C
Io	Output Current @ Vcc=5V	24 (min)	mA
tpd	Delay Time @ Vcc=5V	4 (typ)*	ns

PACKAGE	ORDER CODE	
	AC	ACT
DIP (tube)	74ACxxxB	74ACTxxxB
SO (tube)	74ACxxxM	74ACTxxxM
SO (T&R)	74ACxxxMTR	74ACTxxxMTR
TSSOP (T&R)	74ACxxxTTR	74ACTxxxTTR

* Referred to 74AC244

F	TYPE		PIN
G	74AC	00	14
G	74ACT	00	14
G	74AC	02	14
G	74ACT	02	14
G	74AC	04	14
G	74ACT	04	14
G	74AC	08	14
G	74ACT	08	14
G	74AC	10	14
G	74ACT	10	14
G	74AC	11	14
G	74ACT	11	14
S	74AC	14	14
S	74ACT	14	14
G	74AC	20	14
G	74ACT	20	14
G	74AC	32	14
G	74ACT	32	14

F	TYPE		PIN
S	74AC	74	14
S	74ACT	74	14
S	74AC	86	14
S	74ACT	86	14
S	74AC	125	14
S	74ACT	125	14
M	74AC	138	16
M	74ACT	138	16
M	74AC	157	16
M	74ACT	157	16
M	74AC	158	16
M	74ACT	158	16
M	74AC	161	16
M	74ACT	161	16
M	74AC	163	16
M	74ACT	163	16
M	74AC	174	16
M	74ACT	174	16

F	TYPE		PIN
O	74AC	240	20
O	74ACT	240	20
O	74AC	244	20
O	74ACT	244	20
O	74AC	245	20
O	74ACT	245	20
M	74AC	257	16
M	74ACT	257	16
O	74AC	273	20
O	74ACT	273	20
M	74AC	280	14
M	74ACT	280	14
M	74AC	299	20
M	74ACT	299	20
O	74AC	373	20
O	74ACT	373	20
O	74AC	374	20
O	74ACT	374	20

F	TYPE		PIN
O	74AC	573	20
O	74ACT	573	20
O	74AC	541	20
O	74ACT	541	20
O	74AC	574	20
O	74ACT	574	20
16BIT	74AC	16244	48
16BIT	74ACT	16244	48
16BIT	74AC	16245	48
16BIT	74ACT	16245	48
16BIT	74AC	16373	48
16BIT	74ACT	16373	48
16BIT	74AC	16374	48
16BIT	74ACT	16374	48
16BIT	74AC	16541	48
16BIT	74ACT	16541	48

F: Function; G: Gate; S: Small Scale Integration; M: Medium Scale Integration; O: Octal.

VHC, VHCT LOW NOISE, VERY HIGH SPEED CMOS

SYMBOL	PARAMETER	VALUE	UNIT
Vcc	Supply Voltage: VHC series	2 to 5.5	V
	VHCT series	4.5 to 5.5	V
Vi	Input Voltage	0 to 5.5	V
Top	Operating Temperature	-55 to 125	°C
Io	Output Current @ Vcc=5V	8	mA
tpd	Delay Time @ Vcc=5V, CL=15pF	4 (typ)*	ns

PACKAGE	ORDER CODE	
	VHC	VHCT
SO (tube)	74VHCxxxM	74VHCTxxxAM
SO (T&R)	74VHCxxxMTR	74VHCTxxxAMTR
TSSOP (T&R)	74VHCxxxTTR	74VHCTxxxATTR

* Referred to 74VHC244

F	TYPE		PIN
G	74VHC	00	14
G	74VHCT	00A	14
G	74VHC	02	14
G	74VHCT	02A	14
G	74VHC	03	14
G	74VHCT	03A	14
G	74VHC	04	14
G	74VHCT	04A	14
G	74VHC	U04	14
G	74VHC	05	14
G	74VHCT	05A	14
G	74VHC	08	14
G	74VHCT	08A	14
S	74VHC	14	14
S	74VHCT	14A	14
G	74VHC	20	14
G	74VHCT	20A	14
G	74VHC	27	14

F	TYPE		PIN
G	74VHCT	27A	14
G	74VHC	32	14
G	74VHCT	32A	14
S	74VHC	74	14
S	74VHCT	74A	14
S	74VHC	86	14
S	74VHCT	86A	14
S	74VHC	125	14
S	74VHCT	125A	14
S	74VHC	126	14
S	74VHCT	126A	14
S	74VHC	132	14
S	74VHCT	132A	14
M	74VHC	138	16
M	74VHCT	138A	16
M	74VHC	139	16
M	74VHCT	139A	16
M	74VHC	157	16

F	TYPE		PIN
M	74VHCT	157A	16
16BIT	74VHC	16240	48
16BIT	74VHCT	16240	48
16BIT	74VHC	16244	48
16BIT	74VHCT	16244	48
16BIT	74VHC	16245	48
16BIT	74VHCT	16245	48
16BIT	74VHC	16373	48
16BIT	74VHCT	16373	48
16BIT	74VHC	16374	48
16BIT	74VHCT	16374	48
M	74VHC	174	16
M	74VHCT	174A	16
M	74VHC	238	16
M	74VHCT	238A	16
O	74VHC	240	20
O	74VHCT	240A	20
O	74VHC	244	20

F	TYPE		PIN
O	74VHCT	244A	20
O	74VHC	245	20
O	74VHCT	245A	20
M	74VHC	257	16
M	74VHCT	257A	16
O	74VHC	273	20
O	74VHCT	273A	20
O	74VHC	373	20
O	74VHCT	373A	20
O	74VHC	374	20
O	74VHCT	374A	20
O	74VHC	541	20
O	74VHCT	541A	20
O	74VHC	573	20
O	74VHCT	573A	20
O	74VHC	574	20
O	74VHCT	574A	20
O	74VHC	594	20

F: Function; G: Gate; S: Small Scale Integration; M: Medium Scale Integration; O: Octal.

SYMBOL	PARAMETER	VALUE	UNIT
Vdd	Supply Voltage	3 to 18	V
Vi	Input Voltage	0 to Vdd	V
Top	Operating Temperature	-55 to 125	°C
Io	Output Current @ Vdd= 15V	7	mA
tpd	Delay Time @ Vdd= 15V	45 (typ)*	ns

* Referred to HCF4011B

PACKAGE	ORDER CODE
DIP (tube)	HCF4xxxBEY
SO (tube)	HCF4xxxBM1
SO (T&R)	HCF4xxxM013TR

F	TYPE		PIN
G	HCF	4000B	14
G	HCF	4001B	14
G	HCF	4002B	14
M	HCF	4006B	14
G	HCF	4007UB	14
M	HCF	4008B	16
S	HCF	4009UB	16
S	HCF	4010B	16
G	HCF	4011B	14
G	HCF	4012B	14
S	HCF	4013B	14
M	HCF	4014B	16
M	HCF	4015B	16
S	HCF	4016B	14
M	HCF	4017B	16
M	HCF	4018B	16
S	HCF	4019B	16
M	HCF	4020B	16
M	HCF	4021B	16
M	HCF	4022B	16
G	HCF	4023B	14
M	HCF	4024B	14
G	HCF	4025B	14
M	HCF	4026B	16
S	HCF	4027B	16
M	HCF	4028B	16
M	HCF	4029B	16
S	HCF	4030B	14
M	HCF	4031B$^{\Delta}$	16
M	HCF	4032B	16
M	HCF	4033B	16
M	HCF	4034B	24
M	HCF	4035B	16
M	HCF	4038B	16
M	HCF	4040B	16
M	HCF	4041UB	14
M	HCF	4042B	16
M	HCF	4043B	16
M	HCF	4044B	16
M	HCF	4045B	16
M	HCF	4046B	16
M	HCF	4047B	14
M	HCF	4048B	16
S	HCF	4049UB	16
S	HCF	4050B	16
M	HCF	4051B	16
M	HCF	4052B	16
M	HCF	4053B	16
M	HCF	4054B	16
M	HCF	4055B	16
M	HCF	4056B	16
M	HCF	4060B	16
M	HCF	4063B	16
S	HCF	4066B	14
M	HCF	4067B*	24
G	HCF	4068B	14

F	TYPE		PIN
G	HCF	4069UB	14
G	HCF	4070B	14
G	HCF	4071B	14
G	HCF	4072B	14
G	HCF	4073B	14
G	HCF	4075B	14
M	HCF	4076B	16
G	HCF	4077B	14
G	HCF	4078B	14
G	HCF	4081B	14
G	HCF	4082B	14
S	HCF	4085B	14
S	HCF	4086B	14
M	HCF	4089B	16
S	HCF	4093B	14
M	HCF	4094B	16
M	HCF	4095B	14
M	HCF	4096B	14
M	HCF	4097B*	24
M	HCF	4098B	16
M	HCF	4099B	16
M	HCF	4502B	16
M	HCF	4503B	16
M	HCF	4508B*	24
M	HCF	4510B$^{\Delta}$	16
M	HCF	4511B	16
M	HCF	4512B	16
M	HCF	4514B*	24
M	HCF	4515B*	24
M	HCF	4516B	16
M	HCF	4517B$^{\Delta}$	16
M	HCF	4518B	16
M	HCF	4520B	16
M	HCF	4521B	16
M	HCF	4527B$^{\Delta}$	16
M	HCF	4532B	16
M	HCF	4536B$^{\Delta}$	16
M	HCF	4538B	16
M	HCF	4541B	14
M	HCF	4543B	16
M	HCF	4555B	16
M	HCF	4556B	16
M	HCF	4585B	16
M	HCF	4724B$^{\Delta}$	16
M	HCF	40100B	16
M	HCF	40101B	14
M	HCF	40102B	16
M	HCF	40103B	16
M	HCF	40104B$^{\Delta}$	16
M	HCF	40105B$^{\Delta}$	16
M	HCF	40106B	14
M	HCF	40107B	8
M	HCF	40108B*	24
M	HCF	40109B	16
M	HCF	40110B$^{\Delta}$	16
M	HCF	40147B	16

F	TYPE		PIN
M	HCF	40160B	16
M	HCF	40161B	16
M	HCF	40162B	16
M	HCF	40163B	16
M	HCF	40174B	16
M	HCF	40181B*	24
M	HCF	40182B	16
M	HCF	40192B	16
M	HCF	40193B	16
M	HCF	40194B$^{\Delta}$	16
M	HCF	40208B*	24
M	HCF	40257B	16
M	M	22100B$^{\Delta}$	16

F: Function;
G: Gate;
S: Small Scale Integration;
M: Medium Scale Integration;
O: Octal
*Only in SO package
$^{\Delta}$ Only in DIP package

HCMOS SINGLE SWITCH

SYMBOL	PARAMETER	VALUE	UNIT
Vcc	Supply Voltage: V1G series	2 to 12	V
Vi	Input Voltage	0 to Vcc	V
Top	Operating Temperature	-55 to 125	°C
Ron	On resistance: @ Vcc=12V	45 (typ)	Ω
tpz	Enable Time @Vcc= 12V	6 (typ)	ns

PACKAGE	ORDER CODE
SOT323-5 (T&R)	74H1G66STR

F	TYPE		PIN
Switch	74H1G	66	5

F: Function

VHC,VHCT SINGLE AND DUAL SWITCHES

F	TYPE		PIN
SPST	74V1G	66	5
SPST	74V1T	66	5
SPST	74V1G	384	5
SPST	74V1T	384	5
2xSPST	74V2G	384	8
2xSPST	74V2T	384	8
2xSPST	74V2G	66	8
2xSPST	74V2T	66	8
SPDT	STG	719	6
SPDT	STG	3157	6
4xSPDT	STG	3699*	16

* Coming soon
F: Function
SPST: Single Pole Single Throw
SPDT: Single Pole Double Throw

SYMBOL	PARAMETER	VALUE	UNIT
Vcc	Supply Voltage: VHC series	2 to 5.5	V
	VHCT series	4.5 to 5.5	V
	STG* series	1.65 to 5.5	V
Vi	Input Voltage	0 to Vcc	V
Top	Operating Temperature	-55 to 125	°C
Ron	On Resistance @ Vcc=5V	0.5 to 10	Ω
tpd	Delay Time @Vcc= 5V	2.5 (typ)	ns

*STG3699 Vcc=1.65 to 3.6V

PACKAGE	ORDER CODE		
	V1G/V2G	V1T/V2T	STG
SOT23-5/6/8L (T&R)	74VxGxxxSTR	74VxTxxxSTR	STG719STR
SOT323-5/6L (T&R)	74VxGxxxCTR	74VxTxxxCTR	STG3157CTR
QFN16 (T&R)	-	-	STG3699QTR

LX1G SINGLE GATE LCX

F	TYPE		PIN
G	74LX1G	00	5
G	74LX1G	02	5
G	74LX1G	03	5
G	74LX1G	04	5
G	74LX1G	05	5
G	74LX1G	07	5
G	74LX1G	08	5
G	74LX1G	14	5
G	74LX1G	32	5
G	74LX1G	70*	5
G	74LX1G	86	5
G	74LX1G	125	5
G	74LX1G	126	5
G	74LX1G	132	5
G	74LX1G	U04	5

*Single buffer or down single supply level translator

SYMBOL	PARAMETER	VALUE	UNIT
Vcc	Supply Voltage	1.65 to 5.5	V
Vi	Input Voltage	0 to 5.5	V
Top	Operating Temperature	-55 to 125	°C
Io	Output Current	24	mA
tpd	Delay Time @Vcc= 3.3V	5.2 (max)*	ns

* Referred to 74LX1G04

PACKAGE	ORDER CODE
SOT23-5L (T&R)	74LX1GxxxSTR
SOT323-5L (T&R)	74LX1GxxxCTR

3V-5V BUS SWITCH

PIN	TYPE		PACKAGE	DESCRIPTION
48	B5S	162861	TSSOP/BQSOP*	5V 20bit with 25Ω series resistor
48	B5S	16861	TSSOP/BQSOP*	5V 20bit with 5Ω series resistor
48	B5S	16862	TSSOP/BQSOP*	5V 20bit with 4 enable, 5Ω series resistor
48	B5S	162862	TSSOP/BQSOP*	5V 20bit with 4 enable, 25Ω series resistor
80	B5S	34X245*	BQSOP*	5V 32bit with 5Ω series resistor
80	B5S	34X2245*	BQSOP*	5V 32bit with 25Ω series resistor
24	B3SVH	861*	TSSOP	3V 10bit, high bandwidth 5V Rail-to-rail signal
24	B3SVH	245*	TSSOP	3V 8 bit, hgh bandwidth 5V Rail-to-rail signal
16	B3S	3253*	SO/TSSOP	3V dual 4:1 MUX / DEMUX
16	B3S	3257*	SO/TSSOP	3V quad 2:1 MUX / DEMUX
14	B3SH	3125U*	SO/TSSOP	3V 4bit, 4 enables, high bandwidth undershoot protection
14	B3SH	3126U*	SO/TSSOP	3V 4bit, 4 enables, high bandwidth undershoot protection

* Under development

LVX/VCX LOW VOLTAGE LEVEL SHIFTER, DUAL SUPPLY

SYMBOL	PARAMETER	VALUE	UNIT
VccA	Supply Voltage	2.7 to 3.6	V
VccB	Supply Voltage	4.5 to 5.5	V
Vi	Input Voltage	0 to VccA/VccB	V
Top	Operating Temperature	-55 to 125	°C
Io	Output Current	24	mA
tpd	Delay Time @Vcc = 3.3V	5.6 (typ)*	ns

* Referred to 74LVX3245

PACKAGE	ORDER CODE
SO (tube)	74LVXxxxM
SO (T&R)	74LVXxxxMTR
TSSOP (T&R)	74LVXxxxTTR
TFBGA54 (T&R)	74VCX16xxxLBR
TSSOP (T&R)	VCX16xxxTTR

F	TYPE		PIN
O	74LVX	3245	24
O	74LVX	4245	24
O	74LVX	C3245	24
O	74LVX	C4245	24

F	TYPE$^{\Delta}$		PIN
16	74VCX16	3245	54/48
16	74VCX16	4245	54/48
16	74VCX16	32245	54/48

Note: 54 pin =TFBGA, 48 pin =TSSOP

Δ VccA 1.65V to 2.7V
VccB 2.3V to 3.6V

V1G, V1T SINGLE GATES VHC, VHCT

SYMBOL	PARAMETER	VALUE	UNIT
Vcc	Supply Voltage: V1G series	2 to 5.5	V
	V1T series	4.5 to 5.5	V
Vi	Input Voltage	0 to 5.5	V
Top	Operating Temperature	-55 to 125	°C
Io	Output Current: @ Vcc=5V	8	mA
tpd	Delay Time @ Vcc= 5V CL=15pF	4(typ)	ns

PACKAGE	ORDER CODE	
	V1G	V1T
SOT23-5/6/8L (T&R)	74V1GxxxSTR	74V1TxxxSTR
SOT323-5L (T&R)	74V1GxxxCTR	74V1TxxxCTR

F	TYPE		PIN
G	74V1G	00	5
G	74V1T	00	5
G	74V1G	02	5
G	74V1T	02	5
G	74V1G	03	5
G	74V1T	03	5
G	74V1G	04	5
G	74V1T	04	5
G	74V1G	U04	5
G	74V1G	05	5
G	74V1T	05	5
G	74V1G	07	5
G	74V1T	07	5
G	74V1G	08	5
G	74V1T	08	5
G	74V1G	14	5
G	74V1T	14	5

F	TYPE		PIN
G	74V1G	32	5
G	74V1T	32	5
G	74V1G	70	5
G	74V1T	70	5
G	74V1G	77	5
G	74V1T	77	5
G	74V1G	79	5
G	74V1T	79	5
G	74V1G	80	5
G	74V1T	80	5
G	74V1G	86	5
G	74V1T	86	5
G	74V1G	125	5
G	74V1T	125	5
G	74V1G	126	5
G	74V1T	126	5

F: Function; G: Gate

V2G, V2T DUAL GATES VHC, VHCT

SYMBOL	PARAMETER	VALUE	UNIT
Vcc	Supply Voltage: V2G series	2 to 5.5	V
	V2T series	4.5 to 5.5	V
Vi	Input Voltage	0 to 5.5	V
Top	Operating Temperature	-55 to 125	°C
Io	Output Current: @ Vcc=5V	8	mA
tpd	Delay Time @ Vcc= 5V CL=15pF	4(typ)	ns

PACKAGE	ORDER CODE	
	V2G	V2T
SOT23-8L (T&R)	74V2GxxxSTR	74V2TxxxSTR

F	TYPE		PIN
G	74V2G	00	8
G	74V2T	00	8
G	74V2G	02	8
G	74V2T	02	8
G	74V2G	03	8
G	74V2T	03	8
G	74V2G	04	8
G	74V2T	04	8
G	74V2G	U04	8
G	74V2G	05	8
G	74V2T	05	8
G	74V2G	07	8
G	74V2T	07	8
G	74V2G	08	8
G	74V2T	08	8
G	74V2G	14	8
G	74V2T	14	8

F	TYPE		PIN
G	74V2G	32	8
G	74V2T	32	8
G	74V2G	70	8
G	74V2T	70	8
G	74V2G	74	8
G	74V2T	74	8
G	74V2G	86	8
G	74V2T	86	8
G	74V2G	125	8
G	74V2T	125	8
G	74V2G	126	8
G	74V2T	126	8
G	74V2G	132	8
G	74V2T	132	8
G	74V2G	241	8
G	74V2T	241	8

F: Function; G: Gate

Automotive / Industrial: STPIC Power Logic

SYMBOL	PARAMETER	UNIT	STPIC6C595	STPIC6A259	STPIC44L02
$R_{DS\ (on)}$	Drain-Source Resistance (max @ 125°C)	Ω	9	2.5	-
V_{DS}	Switching Capability	V	33	50	-
Top	Operating Temperature	°C	-40 to 125	-40 to 125	-40 to 125
Io	Nominal Continuous Output Sink Current	mA	100	350	2.5 mA
T_{LH}	Rise time (typ)	ns	80	125	40
T_{HL}	Fall time (typ)	ns	30	30	20
	Package		SO-16	SO-24	SSOP24

Printer, Peripherals: High Speed IEEE1284 Transceivers

SYMBOL	PARAMETER	UNIT	74ACT1284	74LVC/Z161284
Vcc	Supply Voltage	V	4.5 to 5.5	3 to 3.6
Vcc cable	Supply Voltage	V	-	3 to 5.5
Vi	Input Voltage	V	0 to Vcc	0 to Vcc
Top	Operating Temperature	°C	-40 to 85	-40 to 85
Io	Output Current	mA	14 @ Vcc=4.5V	14/84 @ Vcc=3V
Tpd (max)	Propagation Delay Time	ns	6.5 @ Vcc=4.5V	8.5ns @ Vcc=3V
	Package		SO/TSSOP20	TSSOP48

Set-Top-Box: 32-bit Latch / Buffer / Transceiver

SYMBOL	PARAMETER	UNIT	74ACT32701
Vcc	Supply Voltage	V	4.5 to 5.5
Vi	Input Voltage	V	0 to Vcc
Top	Operating Temperature	°C	-40 to 85
Io	Output Current	mA	24 @ 5V
Tpd (typ)	Propagation Delay Time	ns	4@ 5V
	Package		LFBGA96

Telecom
Relay Driver - Bus Transceiver

SYMBOL	PARAMETER	UNIT	74ACT8244	74GTL1655
Vcc	Supply Voltage	V	4.75 to 5.25	3 to 3.6
Vi	Input Voltage	V	0 to Vcc	0 to 3.6
Top	Operating Temperature	°C	-30 to 80	-40 to 85
Io	Output Current	mA	50/70 @ Vcc=4.75V	24/100 @ Vcc=3V
Tpd (max)	Delay Time	ns	11 @ Vcc=4.75	6.2 @ Vcc=3V
	Package		TSSOP20	TSSOP64

7 E1 Channel Switch Arrays

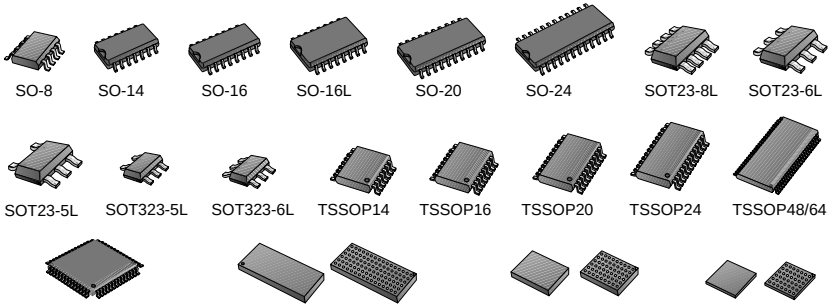
SYMBOL	PARAMETER	UNIT	STM7E1A
VPOS	Positive Supply Voltage	V	+3.3
VNEG	Negative Supply Voltage	V	-3.3
Vi	Input Voltage	V	VNEG to VPOS
Top	Operating Temperature	°C	-25 to 85
Ron (max)	On Resistance	Ω	2
	Package		TQFP64

PACKAGE	ORDER CODE
SO (tube)	xxxM
SO (T&R)	xxxMTR
TSSOP (T&R)	xxxTTR
LFBGA	xxxLB
TQFP	xxxBF

xxx: device name (example: STM7E1A)

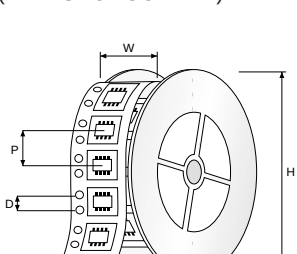
PACKAGE RANGE

Surface Mounting



*coming soon

SO, TSSOP, SOT23-xL & SOT323-xL
TAPE AND REEL
(EIA RS 481 OUTLINE)



DIM	SO-8	SO-14 SO-16 TSSOP14 TSSOP16	SO-16L TSSOP20 TSSOP24	SO-20 SO-24 TSSOP48	SOT23-5/6/8L SOT323-5/6L
H (Inch)	13"	13"	13"	13"	7"
W (Tape Width) mm	12	16	16	24	8
P (mm)	8	8	12	12	4
D (mm)	4	4	4	4	4

PACKAGE	QUANTITY
SO-8 SO-14 SO-16 TSSOP16 TSSOP20 TSSOP24	2500 pcs
SO-16L SO-20 SO-24 TSSOP48	1000 pcs
SOT323-5/6L SOT23-5/6/8L	3000 pcs

Through-Hole

PACKAGE	BASE QTY	BULK QTY
DIP-8	50 pcs	2,000 pcs
DIP-14/16	25 pcs	1,000 pcs
DIP-20	20 pcs	1,000 pcs

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