



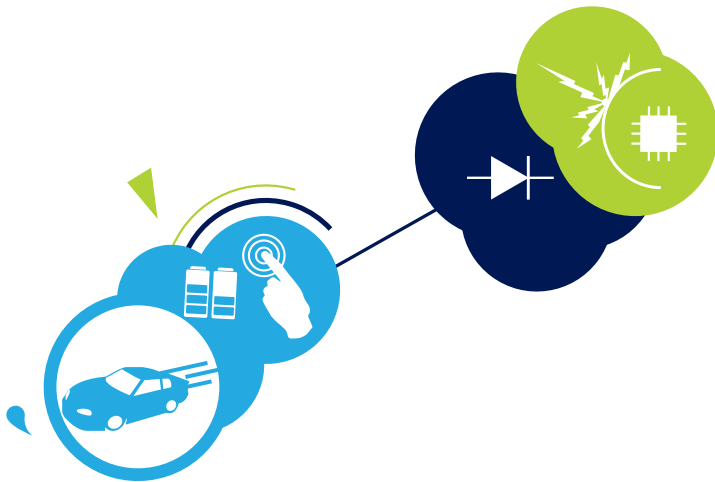
life.augmented

# Automotive-grade Protection devices & rectifiers

---



AEC-Q compliant



# Content

<b>Automotive-grade protection devices</b> .....	2
Automotive dataline ESD protection .....	2
Automotive power-rail TVS protection.....	4
<b>Automotive-grade diodes</b> .....	10
Automotive-grade Schottky diodes .....	10
Automotive-grade ultrafast diodes.....	12



# Automotive-grade protection devices

## AUTOMOTIVE DATALINE ESD PROTECTION

### Unidirectional clamping arrays

Part number	Number of protected lines	ISO 7637-2 pulse compliance	ISO 10605 contact/air	Stand-off voltage ( $V_{RM}$ )	Leakage current ( $I_{RM}$ ) @ $V_{RM}$	Breakdown voltage $V_{BR}$ @ $I_R$		Capacitance ( $C_{line}$ ) @ 0 V bias	Junction temperature ( $T_j$ )	Package
			(kV)	(V)	max ( $\mu A$ )	(V)	(mA)	typ (pF)	max ( $^{\circ}C$ )	
ESDALC5-1BT2Y <sup>(*)</sup>	1	3a, 3b	> 8/15	3	1	5	1	25	150	SOD-882 (0402)
ESDA5V3LY	2	3a, 3b	> 8/15	3	2	5.3	1	220	150	SOT23
ESDA5V3SC6Y	4	3a, 3b	> 8/15	3	2	5.3	1	280	150	SOT23-6L
ESDA6V1LY	2	3a, 3b	> 8/15	5.2	20	6.1	1	140	150	SOT23
ESDA6V1SC6Y	4	3a, 3b	> 8/15	5.2	20	6.1	1	190	150	SOT23-6L
ESDA14V2LY	2	1, 2, 3a, 3b	> 8/15	12	5	14.2	1	90	150	SOT23
ESDA25LY	2	1, 2, 3a, 3b	> 8/15	24	1	25	1	50	150	SOT23
ESDA14V2SC5Y	4	1, 2, 3a, 3b	> 8/15	12	5	14.2	1	100	150	SOT23-5L
ESDA25SC6Y	4	1, 2, 3a, 3b	> 8/15	24	1	25	1	60	150	SOT23-6L

(\*) New products, available in Q4-2013

### Rail-to-rail protection

Part number	Number of protected lines	ISO 7637-2 pulse compliance	ISO 10605 contact/air	Stand-off voltage ( $V_{RM}$ )	Leakage current ( $I_R$ ) @ 15 V	Forward voltage ( $V_F$ ) @ 50 mA	Capacitance ( $C_{line}$ ) @ 5 V	Package
			(kV)	(V)	max ( $\mu A$ )	max (V)	max (pF)	
DALC208SC6Y	4	3a, 3b	> 8/15	9	1	1.2	7	SOT23-6L

## High-speed interface protection

Part number	Number of protected lines	ISO 7637-2 pulse compliance	ISO 10605 contact/air	Stand-off voltage ( $V_{RM}$ )	Leakage current ( $I_{RM}$ ) @ $V_{RM}$	Breakdown voltage ( $V_{BR}$ ) @ $I_n$		Capacitance ( $C_{line}$ ) I/O to Gnd	Capacitance ( $C_{line}$ ) I/O to I/O	Junction temperature ( $T_j$ )	Package
			(kV)	(V)	max ( $\mu$ A)	min (V)	(mA)	typ (pF)	typ (pF)	max ( $^{\circ}$ C)	
USBLC6-2SC6Y	2	3a, 3b	> 8/15	5.25	0.15	6	1	2.5	1.2	150	SOT23-6L
HSP061-2P6Y(*)	2	3a, 3b	> 8/15	5	0.5	6	1	0.6	0.3	125	SOT666
USBLC6-4SC6Y	4	3a, 3b	> 8/15	5.25	0.15	6	1	3	1.85	150	SOT23-6L
DVIULC6-4SC6Y	4	3a, 3b	> 8/15	5	0.5	6	1	0.85	0.42	150	SOT23-6L
HDMIULC6-4SC6Y	4	3a, 3b	> 8/15	5	0.5	6	1	0.85	0.42	150	SOT23-6L
HSP061-4M10Y(*)	4	3a, 3b	> 8/15	5	0.5	6	1	0.6	0.3	150	$\mu$ QFN-10L

(\*) New products, available in Q4-2013

## Communication bus protection

Part number	Number of protected lines	ISO 7637-2 pulse compliance	ISO 10605 contact/air	Peak pulse power 8/20 $\mu$ s	Stand-off voltage ( $V_{RM}$ )	Leakage current ( $I_{RM}$ ) @ $V_{RM}$	Breakdown voltage ( $V_{BR}$ ) @ $I_n$			Clamping voltage ( $V_{Cl}$ ) @ $I_{PP}$ 8/20 $\mu$ s		Capacitance ( $C_{line}$ ) @ 0 V	Junction temperature ( $T_j$ )	Package	
			(kV)	(W)	(V)	( $\mu$ A)	$V_{BR}^{+}$ min (V)	$V_{BR}^{-}$ min (V)	(mA)	(V)	(A)	max (pF)	max ( $^{\circ}$ C)		
<b>LIN bus protection</b>															
ESDLIN1524BJ	1	3a, 3b	> 8/15	160/200	15/- 24	0.5	17.1	25.4	5	35	5	20	125	SOD-323	
<b>CAN bus protection</b>															
ESDCAN24-2BLY	1	3a, 3b	> 8/15	230	24	0.1	27	-27	1	43	5	30	150	SOT23-3L	

## AUTOMOTIVE POWER-RAIL TVS PROTECTION

Automotive-grade 400 W Transil™ (TVS), ISO 7637-2 compliant (pulses 1, 2, 3a, 3b)

Part number		Peak pulse power ( $P_{PP}$ ) 10/1000 $\mu$ s @ 25 °C	Peak pulse power ( $P_{PP}$ ) 10/1000 $\mu$ s @ 150 °C	Peak pulse power ( $P_{PP}$ ) 8/20 $\mu$ s	Stand-off voltage ( $V_{RM}$ )	Leakage current ( $I_{RM}$ ) @ $V_{RM}$		Breakdown voltage ( $V_{BR}$ ) @ $I_R$			Clamping voltage ( $V_{CL}$ ) @ $I_{PP}$ 10/1000 $\mu$ s		Junction temperature ( $T_J$ )	Package
Unidirectional	Bidirectional	(W)	(W)	(kV)	(V)	@ 25 °C max ( $\mu$ A)	@ 85 °C max ( $\mu$ A)	min (V)	typ (V)	(mA)	max (V)	(A)	max (°C)	
<b>SM4TY series</b>														
SM4T6V7AY	SM4T6V7CAY	400	270	2300	5	20	50	6.4	6.74	10	9.2	43.5	150	SMA
SM4T7V6AY	SM4T7V6CAY	400	270	2300	7	20	50	7.2	7.58	10	11.2	35.7	150	SMA
SM4T10AY	SM4T10CAY	400	270	2300	9	0.2	1	9.4	9.9	1	14.4	27.7	150	SMA
SM4T12AY	SM4T12CAY	400	270	2300	10	0.2	1	11.1	11.7	1	17	23.5	150	SMA
SM4T14AY	SM4T14CAY	400	270	2300	12	0.2	1	13.3	14	1	19.9	20.1	150	SMA
SM4T15AY	SM4T15CAY	400	270	2300	13	0.2	1	14.4	15.2	1	21.5	18.6	150	SMA
SM4T18AY	SM4T18CAY	400	270	2300	15	0.2	1	16.7	17.6	1	24.4	16.4	150	SMA
SM4T21AY	SM4T21CAY	400	270	2300	18	0.2	1	20	21.1	1	29.2	13.7	150	SMA
SM4T23AY	SM4T23CAY	400	270	2300	20	0.2	1	22.2	23.4	1	32.4	12.3	150	SMA
SM4T26AY	SM4T26CAY	400	270	2300	22	0.2	1	24.4	25.7	1	35.5	11.2	150	SMA
SM4T28AY	SM4T28CAY	400	270	2300	24	0.2	1	26.7	28.1	1	38.9	10.3	150	SMA
SM4T30AY	SM4T30CAY	400	270	2300	26	0.2	1	28.9	30.4	1	42.1	9.5	150	SMA
SM4T33AY	SM4T33CAY	400	270	2300	28	0.2	1	31.1	32.7	1	45.4	8.8	150	SMA
SM4T35AY	SM4T35CAY	400	270	2300	30	0.2	1	33.3	35.1	1	48.4	8.3	150	SMA
SM4T39AY	SM4T39CAY	400	270	2300	33	0.2	1	36.7	38.6	1	53.3	7.5	150	SMA
SM4T47AY	SM4T47CAY	400	270	2300	40	0.2	1	44.4	46.7	1	64.5	6.2	150	SMA
SM4T50AY	SM4T50CAY	400	270	2300	43	0.2	1	47.8	50.3	1	69.4	5.7	150	SMA
SM4T56AY	SM4T56CAY	400	270	2300	48	0.2	1	53.3	56.1	1	77.4	5.2	150	SMA
SM4T68AY	SM4T68CAY	400	270	2300	58	0.2	1	64.4	67.8	1	93.6	4.3	150	SMA
SM4T82AY	SM4T82CAY	400	270	2300	70	0.2	1	77.8	81.9	1	113	3.5	150	SMA

**Automotive-grade 600 W Transil™ (TVS), ISO 7637-2 compliant (pulses 1, 2, 3a, 3b)**

Part number		Peak pulse power ( $P_{PP}$ ) 10/1000 $\mu$ s @ 25 °C	Peak pulse power ( $P_{PP}$ ) 10/1000 $\mu$ s @ 150 °C	Peak pulse power ( $P_{PP}$ ) 8/20 $\mu$ s	Stand-off voltage ( $V_{RM}$ )	Leakage current ( $I_{RM}$ ) @ $V_{RM}$		Breakdown voltage ( $V_{BR}$ ) @ $I_R$			Clamping voltage ( $V_{CL}$ ) @ $I_{PP}$ 10/1000 $\mu$ s		Junction temperature ( $T_j$ )	Package
Unidirectional	Bidirectional	(W)	(W)	(kW)	(V)	@ 25 °C max ( $\mu$ A)	@ 85 °C max ( $\mu$ A)	min (V)	typ (V)	(mA)	max (V)	(A)	max (°C)	
<b>SMA6TY series</b>														
SMA6T6V7AY	SMA6T6V7CAY	600	300	4000	5	20	50	6.4	6.7	10	9.1	68	150	SMA
SMA6T7V6AY	SMA6T7V6CAY	600	300	4000	7	20	50	7.2	7.6	10	10.2	56	150	SMA
SMA6T10AY	SMA6T10CAY	600	300	4000	9	20	50	9.4	9.9	1	13.3	41.7	150	SMA
SMA6T12AY	SMA6T12CAY	600	300	4000	10	0.2	1	11.1	11.7	1	15.7	37	150	SMA
SMA6T14AY	SMA6T14CAY	600	300	4000	12	0.2	1	13.3	14	1	18.8	31	150	SMA
SMA6T15AY	SMA6T15CAY	600	300	4000	15	0.2	1	16.7	17.6	1	23.6	25.1	150	SMA
SMA6T18AY	SMA6T18CAY	600	300	4000	18	0.2	1	20	21.1	1	28.3	21.5	150	SMA
SMA6T22AY	SMA6T22CAY	600	300	4000	19	0.2	1	20.9	22	1	30.6	20	150	SMA
SMA6T24AY	SMA6T24CAY	600	300	4000	21	0.2	1	22.8	24	1	33.2	18	150	SMA
SMA6T28AY	SMA6T28CAY	600	300	4000	24	0.2	1	26.7	28.1	1	37.8	16	150	SMA
SMA6T30AY	SMA6T30CAY	600	300	4000	26	0.2	1	28.5	30	1	41.5	14.5	150	SMA
SMA6T33AY	SMA6T33CAY	600	300	4000	28	0.2	1	31.4	33	1	45.7	13.1	150	SMA
SMA6T39AY	SMA6T39CAY	600	300	4000	33	0.2	1	37.1	39	1	53.9	11.1	150	SMA
SMA6T47AY	SMA6T47CAY	600	300	4000	40	0.2	1	44.4	46.7	1	62.8	9.7	150	SMA
SMA6T56AY	SMA6T56CAY	600	300	4000	48	0.2	1	53.3	56.1	1	75.4	8.1	150	SMA
SMA6T68AY	SMA6T68CAY	600	300	4000	58	0.2	1	64.4	67.8	1	91.1	6.7	150	SMA
SMA6T82AY	SMA6T82CAY	600	300	4000	70	0.2	1	77.8	81.9	1	110	5.5	150	SMA
<b>SM6TY series</b>														
SM6T6V8AY	SM6T6V8CAY	600	515	4000	6	20	50	6.45	6.8	10	10.5	57	150	SMB
SM6T7V5AY	SM6T7V5CAY	600	515	4000	6	20	50	7.13	7.5	10	11.3	53	150	SMB
SM6T10AY	SM6T10CAY	600	515	4000	9	20	50	9.5	10	1	14.5	41	150	SMB

**Automotive-grade 600 W Transil™ (TVS), ISO 7637-2 compliant (pulses 1, 2, 3a, 3b)**

Part number		Peak pulse power ( $P_{PP}$ ) 10/1000 $\mu$ s @ 25 °C	Peak pulse power ( $P_{PP}$ ) 10/1000 $\mu$ s @ 150 °C	Peak pulse power ( $P_{PP}$ ) 8/20 $\mu$ s	Stand-off voltage ( $V_{RM}$ )	Leakage current ( $I_{RM}$ ) @ $V_{RM}$		Breakdown voltage ( $V_{BR}$ ) @ $I_R$			Clamping voltage ( $V_{CL}$ ) @ $I_{PP}$ 10/1000 $\mu$ s		Junction temperature ( $T_j$ )	Package
Unidirectional	Bidirectional	(W)	(W)	(kW)	(V)	@ 25 °C max ( $\mu$ A)	@ 85 °C max ( $\mu$ A)	min (V)	typ (V)	(mA)	max (V)	(A)	max (°C)	
SM6T12AY	SM6T12CAY	600	515	4000	10	0.2	1	11.4	12	1	16.7	36	150	SMB
SM6T15AY	SM6T15CAY	600	515	4000	13	0.2	1	14.3	15	1	21.2	28	150	SMB
SM6T18AY	SM6T18CAY	600	515	4000	15	0.2	1	17.1	18	1	25.2	24	150	SMB
SM6T22AY	SM6T22CAY	600	515	4000	19	0.2	1	20.9	22	1	30.6	20	150	SMB
SM6T24AY	SM6T24CAY	600	515	4000	21	0.2	1	22.8	24	1	33.2	18	150	SMB
SM6T27AY	SM6T27CAY	600	515	4000	23	0.2	1	25.7	27	1	37.5	16	150	SMB
SM6T30AY	SM6T30CAY	600	515	4000	26	0.2	1	28.5	30	1	41.5	14.5	150	SMB
SM6T33AY	SM6T33CAY	600	515	4000	28	0.2	1	31.4	33	1	45.7	13.1	150	SMB
SM6T36AY	SM6T36CAY	600	515	4000	31	0.2	1	34.2	36	1	49.9	12	150	SMB
SM6T39AY	SM6T39CAY	600	515	4000	33	0.2	1	37.1	39	1	53.9	11.1	150	SMB
SM6T42AY	SM6T42CAY	600	515	4000	36	0.2	1	40	42.1	1	58.1	10.3	150	SMB
SM6T47AY	SM6T47CAY	600	515	4000	40	0.2	1	44.4	46.7	1	64.5	9.7	150	SMB
SM6T56AY	SM6T56CAY	600	515	4000	48	0.2	1	53.2	56	1	76.6	7.8	150	SMB
SM6T68AY	SM6T68CAY	600	515	4000	58	0.2	1	64.6	68	1	92	6.5	150	SMB
SM6T75AY	SM6T75CAY	600	515	4000	64	0.2	1	71.3	75	1	103	5.8	150	SMB
SM6T82AY	SM6T82CAY	600	515	4000	70	0.2	1	77.8	81.9	1	113	5.5	150	SMB

**Automotive-grade 1500 W Transil™ (TVS), ISO 7637-2 compliant (pulses 1, 2, 3a, 3b)**

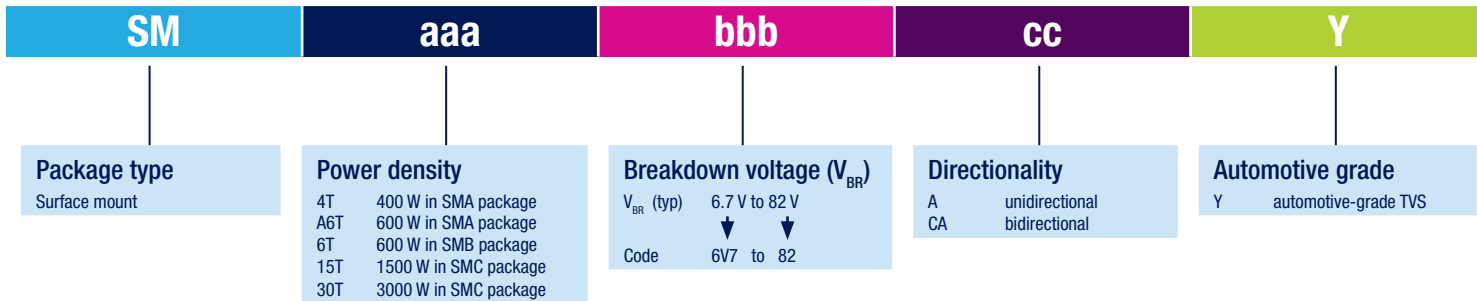
Part number		Peak pulse power ( $P_{PP}$ ) 10/1000 $\mu$ s @ 25 °C	Peak pulse power ( $P_{PP}$ ) 10/1000 $\mu$ s @ 150 °C	Peak pulse power ( $P_{PP}$ ) 8/20 $\mu$ s	Stand-off voltage ( $V_{RM}$ )	Leakage current ( $I_{RM}$ ) @ $V_{RM}$		Breakdown voltage ( $V_{BR}$ ) @ $I_R$			Clamping voltage ( $V_{CL}$ ) @ $I_{PP}$ 10/1000 $\mu$ s		Junction temperature ( $T_J$ )	Package
Unidirectional	Bidirectional	(W)	(W)	(kW)	(V)	@ 25 °C max ( $\mu$ A)	@ 85 °C max ( $\mu$ A)	min (V)	typ (V)	(mA)	max (V)	(A)	max (°C)	
<b>SM15TY series</b>														
SM15T6V8AY	SM15T6V8CAY	1500	1250	10000	5.8	500	2000	6.45	6.8	10	10.5	143	150	SMC
SM15T7V5AY	SM15T7V5CAY	1500	1250	10000	6.4	250	1000	7.13	7.5	10	11.3	132	150	SMC
SM15T10AY	SM15T10CAY	1500	1250	10000	8.55	10	50	9.5	10	1	14.5	103	150	SMC
SM15T12AY	SM15T12CAY	1500	1250	10000	10.2	0.2	1	11.4	12	1	16.7	90	150	SMC
SM15T15AY	SM15T15CAY	1500	1250	10000	12.8	0.2	1	14.3	15	1	21.2	71	150	SMC
SM15T18AY	SM15T18CAY	1500	1250	10000	15.3	0.2	1	17.1	18	1	25.2	59.5	150	SMC
SM15T22AY	SM15T22CAY	1500	1250	10000	18.8	0.2	1	20.9	22	1	30.6	49	150	SMC
SM15T24AY	SM15T24CAY	1500	1250	10000	20.5	0.2	1	22.8	24	1	33.2	45	150	SMC
SM15T27AY	SM15T27CAY	1500	1250	10000	23.1	0.2	1	25.7	27	1	37.5	40	150	SMC
SM15T30AY	SM15T30CAY	1500	1250	10000	25.6	0.2	1	28.5	30	1	41.5	36	150	SMC
SM15T33AY	SM15T33CAY	1500	1250	10000	28.2	0.2	1	31.4	33	1	45.7	33	150	SMC
SM15T36AY	SM15T36CAY	1500	1250	10000	30.8	0.2	1	34.2	36	1	49.9	30	150	SMC
SM15T39AY	SM15T39CAY	1500	1250	10000	33.3	0.2	1	37.1	39	1	53.9	28	150	SMC
SM15T47AY	SM15T47CAY	1500	1250	10000	40.2	0.2	1	44.7	47	1	64.5	23.2	150	SMC
SM15T56AY	SM15T56CAY	1500	1250	10000	48	0.2	1	53.3	56	1	77.4	20	150	SMC
SM15T68AY	SM15T68CAY	1500	1250	10000	58.1	0.2	1	64.6	68	1	92	16.3	150	SMC
SM15T75AY	SM15T75CAY	1500	1250	10000	64.1	0.2	1	71.3	75	1	1.3	14.6	150	SMC
SM15T82AY	SM15T82CAY	1500	1250	10000	70	0.2	1	77.8	82	1	113	13.9	150	SMC



**Automotive-grade 3000 W Transil™ (TVS), ISO 7637-2 compliant (pulses 1, 2, 3a, 3b)**

Part number		Peak pulse power ( $P_{PP}$ ) 10/1000 $\mu$ s @ 25 °C	Peak pulse power ( $P_{PP}$ ) 10/1000 $\mu$ s @ 150 °C	Peak pulse power ( $P_{PP}$ ) 8/20 $\mu$ s	Stand-off voltage ( $V_{RM}$ )	Leakage current ( $I_{RM}$ ) @ $V_{RM}$		Breakdown voltage ( $V_{BR}$ ) @ $I_R$			Clamping voltage ( $V_{CL}$ ) @ $I_{PP}$ 10/1000 $\mu$ s		Junction temperature ( $T_j$ )	Package
Unidirectional	Bidirectional	(W)	(W)	(kW)	(V)	@ 25 °C max ( $\mu$ A)	@ 85 °C max ( $\mu$ A)	min (V)	typ (V)	(mA)	max (V)	(A)	max (°C)	
<b>SM30TY series</b>														
SM30T18AY	SM30T18CAY	3000	2200	28000	15	0.2	-	16.7	17.6	1	30.0	910	150	SMC
SM30T19AY	SM30T19CAY	3000	2200	28000	16	0.2	-	17.8	18.7	1	31.5	870	150	SMC
SM30T21AY	SM30T21CAY	3000	2200	28000	18	0.2	-	20	21.1	1	35.0	790	150	SMC
SM30T23AY	SM30T23CAY	3000	2200	28000	20	0.2	-	22.2	23.4	1	37.5	730	150	SMC
SM30T26AY	SM30T26CAY	3000	2200	28000	22	0.2	-	24.4	25.7	1	40.5	680	150	SMC
SM30T28AY	SM30T28CAY	3000	2200	28000	24	0.2	-	26.7	28.1	1	43.9	630	150	SMC
SM30T30AY	SM30T30CAY	3000	2200	28000	26	0.2	-	28.9	30.4	1	47.0	600	150	SMC
SM30T33AY	SM30T33CAY	3000	2200	28000	28	0.2	-	31.1	32.7	1	50.0	560	150	SMC
SM30T35AY	SM30T35CAY	3000	2200	28000	30	0.2	-	33.3	35.1	1	53.0	530	150	SMC
SM30T39AY	SM30T39CAY	3000	2200	28000	33	0.2	-	36.7	38.6	1	58.0	490	150	SMC

## AUTOMOTIVE POWER-RAIL TVS PROTECTION ORDERING INFORMATION



# Automotive-grade diodes

## AUTOMOTIVE-GRADE SCHOTTKY DIODES

Part number	Package	Number of diodes	Repetitive peak reverse voltage ( $V_{RRM}$ )	Average rectified current ( $I_A$ )	Forward voltage ( $V_F$ )	$V_F$ measure condition (@ $I_A$ )	Reverse current ( $I_R$ )	Non-repetitive peak surge current ( $I_{FSM}$ )	Junction temperature (T)
			max (V)	max (A)	max (V)	(A)	max (mA)	max (A)	max (°C)
<b>30 V</b>									
STPS8L30-Y	DPAK	1	30	8	0.4	0.4	1	75	150
STPS60L30C-Y	PowerSO-20	2	30	2 x 30	0.49	30	2	250	150
<b>40 V</b>									
BAT54-Y	SOT-23, SOT-323	1, 2	40	0.3	0.9	0.1	0.001	1	150
STPS0540-Y	SOD-123	1	40	0.5	0.5	0.5	0.04	5.5	150
STPS140-Y	SMA, SMB	1	40	1	0.55	1	0.012	60	150
STPS140Z-Y	SOD-123	1	40	1	0.55	1	0.012	5.5	150
STPS1L40-Y	SMA, SMB	1	40	1	0.42	1	0.035	60	150
STPS340-Y	SMB, SMC	1	40	3	0.63	3	0.02	75	150
STPS3L40-Y	SMC	1	40	3	0.5	3	0.1	75	150
STPS640C-Y	DPAK	2	40	2 x 3	0.57	3	0.1	75	150
<b>45 V</b>									
STPS1045B-Y	DPAK	1	45	10	0.63	10	0.1	75	175
STPS1545-Y	TO-220AC	1	45	15	0.57	15	0.2	220	175
STPS1545C-Y	D <sup>2</sup> PAK	2	45	2 x 7.5	0.84	15	0.1	150	175
STPS15L45C-Y	DPAK	2	45	2 X 7.5	0.64	15	1	75	150
STPS2045C-Y	D <sup>2</sup> PAK	2	45	2 x 10	0.84	20	0.1	180	175
STPS2545C-Y	D <sup>2</sup> PAK	2	45	2 x 12.5	0.84	25	0.125	200	175
STPS2545CT-Y	TO-220AB	2	45	2 x 12.5	0.84	25	0.125	200	175
STPS3045C-Y	D <sup>2</sup> PAK	2	45	2 x 15	0.84	30	0.2	220	175
STPS4045C-Y	TO-247	2	45	2 x 20	0.76	20	0.2	220	175
STPS40L45C-Y	D <sup>2</sup> PAK	2	45	2 x 20	0.49	20	0.6	230	150
<b>60 V</b>									
STPS160-Y	SMA, SMB	1	60	1	0.57	1	4	75	150
STPS2L60-Y	SMA	1	60	2	0.6	2	0.1	75	150
STPS3L60-Y	SMC	1	60	3	0.65	3	0.055	75	150
STPS3L60U-Y	SMB	1	60	3	0.62	3	0.15	100	150

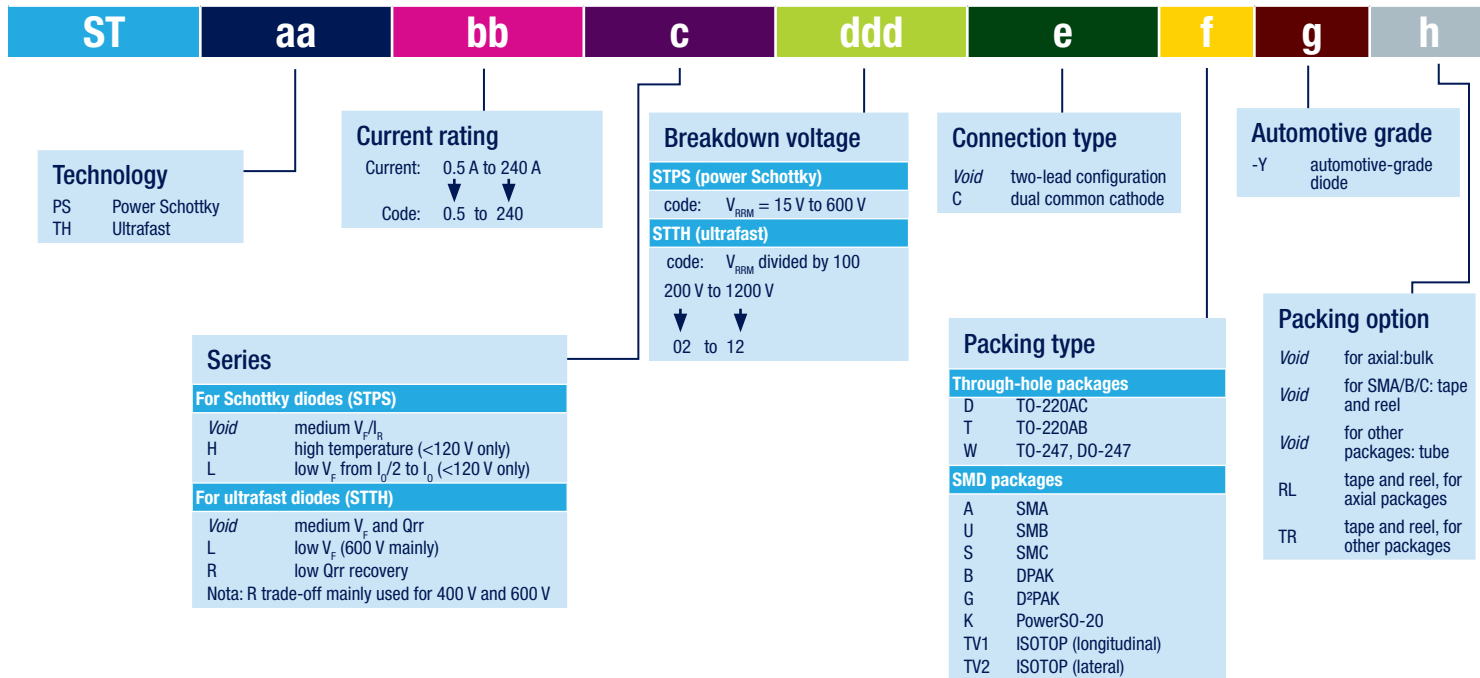
## AUTOMOTIVE-GRADE SCHOTTKY DIODES

Part number	Package	Number of diodes	Repetitive peak reverse voltage ( $V_{RRM}$ )	Average rectified current ( $I_A$ )	Forward voltage ( $V_F$ )	$V_F$ measure condition (@ $I_F$ )	Reverse current ( $I_R$ )	Non-repetitive peak forward surge current ( $I_{FSM}$ )	Junction temperature (T)
			max (V)	max (A)	max (V)	(A)	max (mA)	max (A)	max (°C)
STPS5L60-Y	SMC	1	60	5	0.48	5	0.22	150	150
STPS20L60C-Y	D <sup>2</sup> PAK	2	60	2 x 10	0.6	10	0.35	220	150
STPS30H60C-Y	D <sup>2</sup> PAK	2	60	2 x 15	0.57	15	0.06	230	175
STPS30H60C-Y	PowerSO-20	2	60	2 x 15	0.58	15	0.15	250	150
<b>100 V</b>									
STPS1H100-Y	SMA, SMB	1	100	1	0.77	1	0.004	50	175
STPS2H100-Y	SMA, SMB	1	100	2	0.79	2	0.001	75	175
STPS5H100-Y	DPAK	1	100	5	0.79	5	0.004	75	175
STPS15H100C-Y	DPAK	2	100	2 x 7.5	0.8	7.5	0.003	75	175
STPS41H100C-Y	D2PAK	2	100	2 x 20	0.8	20	0.01	220	175
<b>150 V</b>									
STPS1150-Y	SMA	1	150	1	0.67	1	0.001	50	175
STPS3150-Y	SMB	1	150	3	0.82	3	0.002	80	175
<b>170 V</b>									
STPS40170C-Y	D2PAK	2	170	2 x 20	0.92	20	0.03	250	175
STPS200170TV1Y	ISOTOP	2	170	200	0.85	100	0.2	700	150

## AUTOMOTIVE-GRADE ULTRAFAST DIODES

Part number	Package	Number of diodes	Repetitive peak reverse voltage ( $V_{RRM}$ )	Average rectified current ( $I_A$ )	Forward voltage ( $V_F$ )	$V_F$ measure condition (@ $I_F$ )	Reverse current ( $I_R$ )	Reverse recovery time ( $t_{rr}$ )	Non-repetitive peak forward surge current ( $I_{FSM}$ )	Junction temperature (T)
			max (V)	max (A)	max (V)	(A)	max (mA)	max (ns)	max (A)	max (°C)
<b>200 V and 300 V</b>										
STTH102-Y	SMA	1	200	1	0.97	1	0.001	20	40	175
STTH2R02-Y	SMB	1	200	2	1	2	0.003	20	75	175
STTH4R02-Y	SMB, SMC	1	200	4	1.05	4	0.003	20	70	175
STTH602C-Y	DDPAK	2	200	2 X 3	0.95	3	0.003	20	60	175
STTH802-Y	DDPAK	1	200	8	1.05	8	0.006	30	100	175
STTH1002C-Y	D <sup>2</sup> PAK, DPAK	2	200	2 x 5	1.1	5	0.005	20	50	175
STTH1003S-Y	DDPAK	1	300	10	1.3	10	0.1	35	100	175
STTH2003C-Y	D <sup>2</sup> PAK	2	300	2 x 10	1.25	10	0.02	40	110	175
<b>400 V</b>										
STTH1R04-Y	SMA, SMB	1	400	1	1.6	1	0.005	30	30	175
STTH30R04-Y	TO-220AC, DO-247	1	400	30	1.55	30	0.015	280	45	175
<b>600 V</b>										
STTH5R06B-Y	DDPAK	1	600	5	3.2	5	0.03	35	50	175
STTH5R06G-Y	D <sup>2</sup> PAK	1	600	5	3.2	5	0.03	35	70	175
STTH8R06-Y	D <sup>2</sup> PAK	1	600	8	3.2	8	0.03	45	90	175
STTH30L06-Y	D <sup>2</sup> PAK, DO-247	1	600	30	1.55	30	0.025	65	300	175
<b>1000 V</b>										
STTH810-Y	D <sup>2</sup> PAK	1	1000	8	2	8	0.005	85	60	175
STTH1210-Y	TO-220AC	1	1000	12	2	12	0.01	90	80	175
STTH3010-Y	D <sup>2</sup> PAK, DO-247	1	1000	30	2	30	0.015	100	300	175
STTH6010-Y	DO-247	1	1000	60	1.7	60	0.02	65	400	175
<b>1200 V</b>										
STTH1512-Y	D <sup>2</sup> PAK	1	1200	15	2.1	15	0.015	75	200	175

# AUTOMOTIVE-GRADE DIODE ORDERING INFORMATION





ST is a global leader in the semiconductor market serving customers across the spectrum of sense and power technologies and multimedia convergence applications.

From energy management and savings to trust and data security, from healthcare and wellness to smart consumer devices, in the home, car and office, at work and at play, ST is found everywhere microelectronics make a positive and innovative contribution to people's life.

By getting more from technology  
to get more from life, ST stands for

life.augmented

# life.augmented



© STMicroelectronics - September 2013 - Printed in United Kingdom - All rights reserved  
The STMicroelectronics corporate logo is a registered trademark  
of the STMicroelectronics group of companies  
All other names are the property of their respective owners

Order code: SGDIODEAUTO0913

For more information on ST products and solutions, visit