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Overvoltage Protected AC switches

Discrete and Filter Division

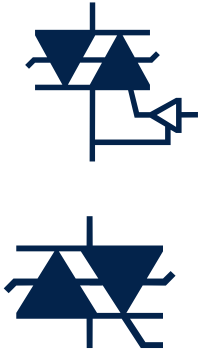
Analog, Power & Discrete, MEMS et Sensors



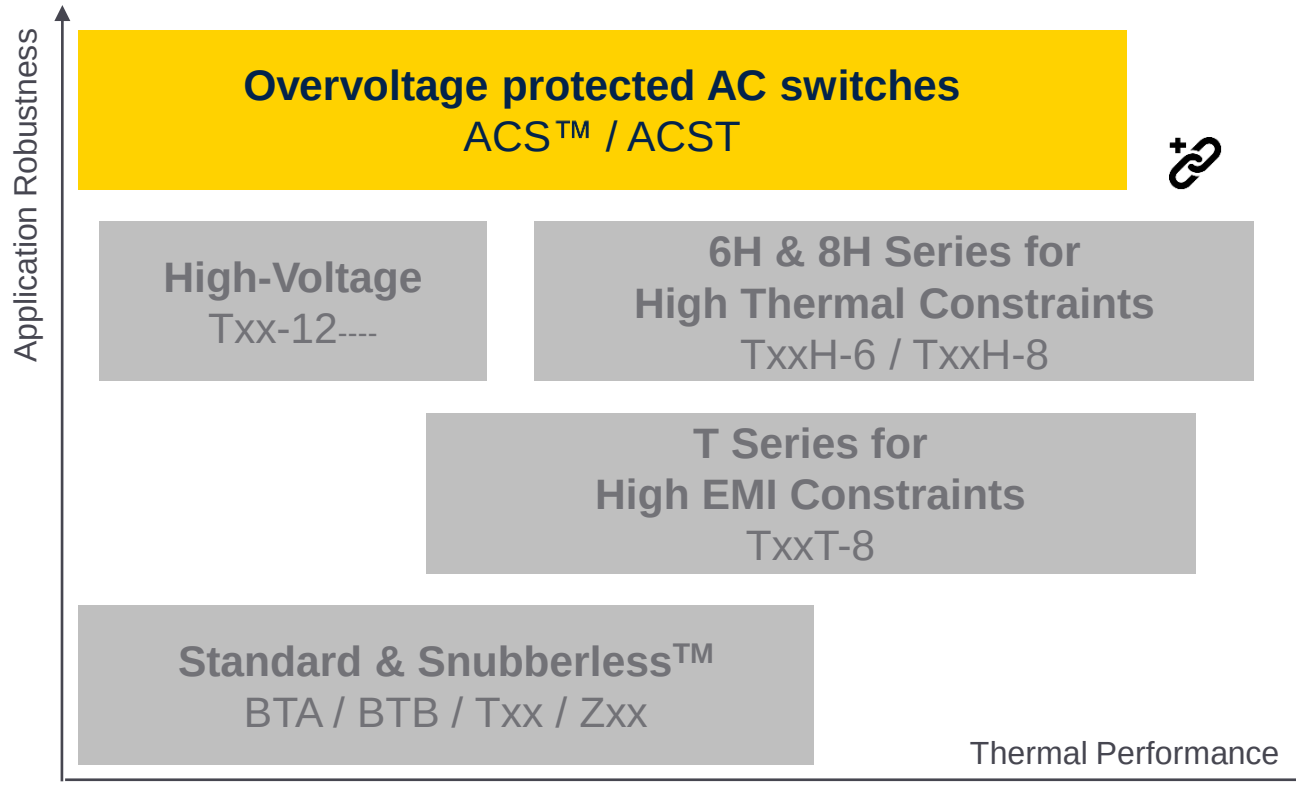


The overvoltage protected AC switch overview

The AC Switches : a must for electrical robustness in appliances



**Bidirectional
Conducting**



AC Switch key features:

- V_{DRM} 700 and 800 V
- $I_{\text{T(RMS)}}$ 0.2 to 20 A
- I_{GT} 5 to 35 mA
- $T_{\text{J MAX}}$ 125 to 150 °C



AC Switches for robust automated appliances

Contribute to board miniaturization by delivering robust power control



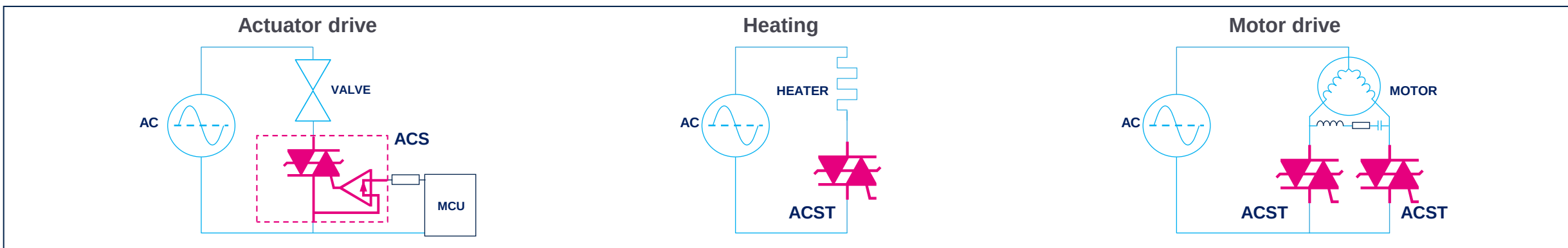
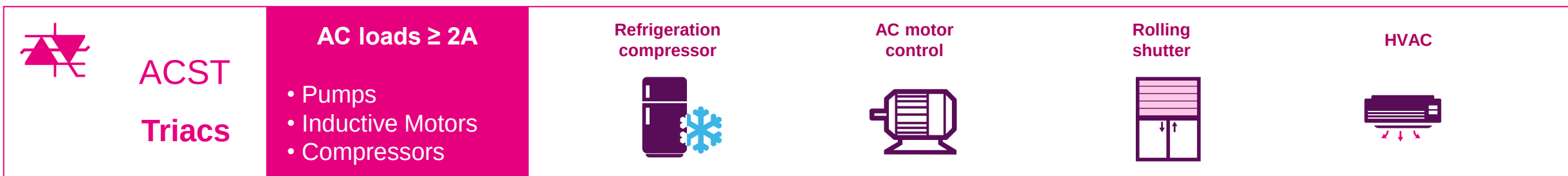
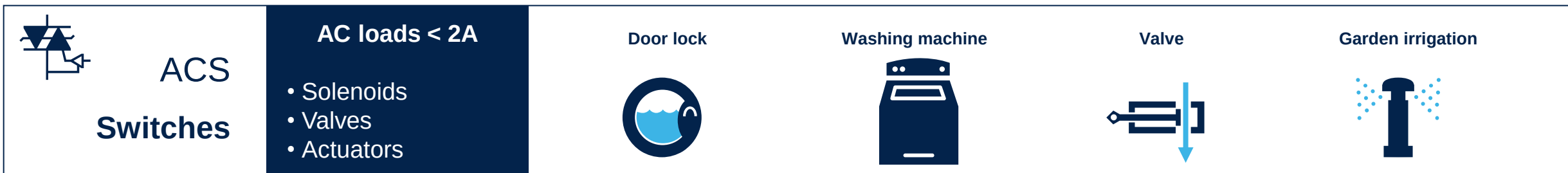
High noise immunity up to 6kV fast transients

Zero failure up to 2kV surge without MOV

Reduce material count & printed board size



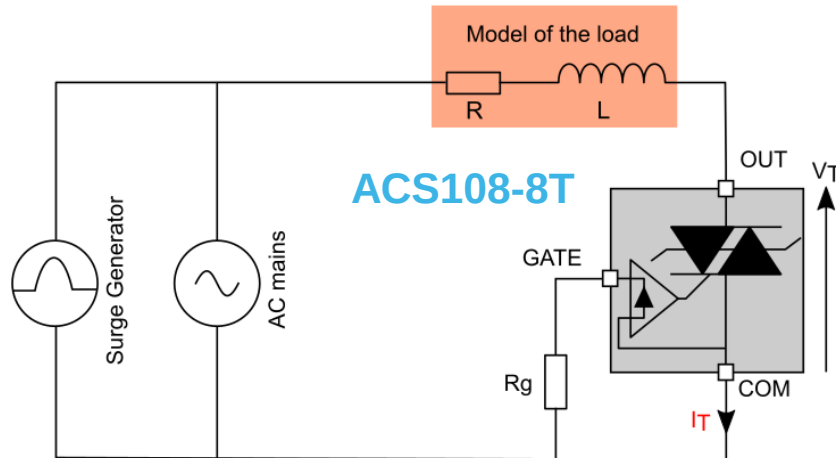
Overvoltage-protected AC Switches : Applications and topologies





AC Switch Overvoltage Protection Ease IEC61000-4-5 Standard Test

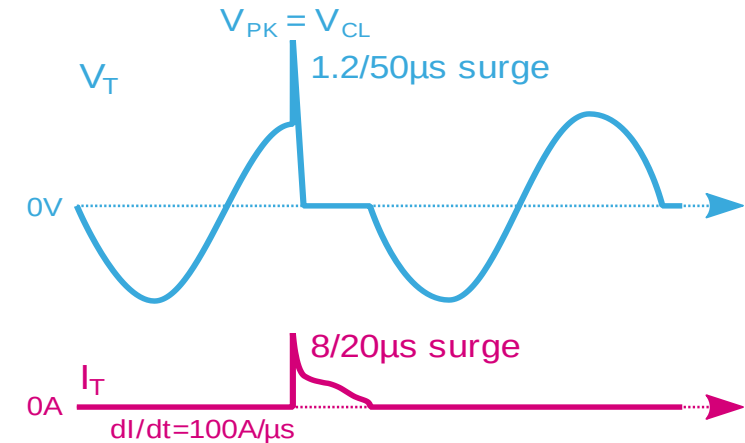
Zero failure against repetitive +/- 2 kV surge voltages without extra protection



Load:
150Ω / 10μH



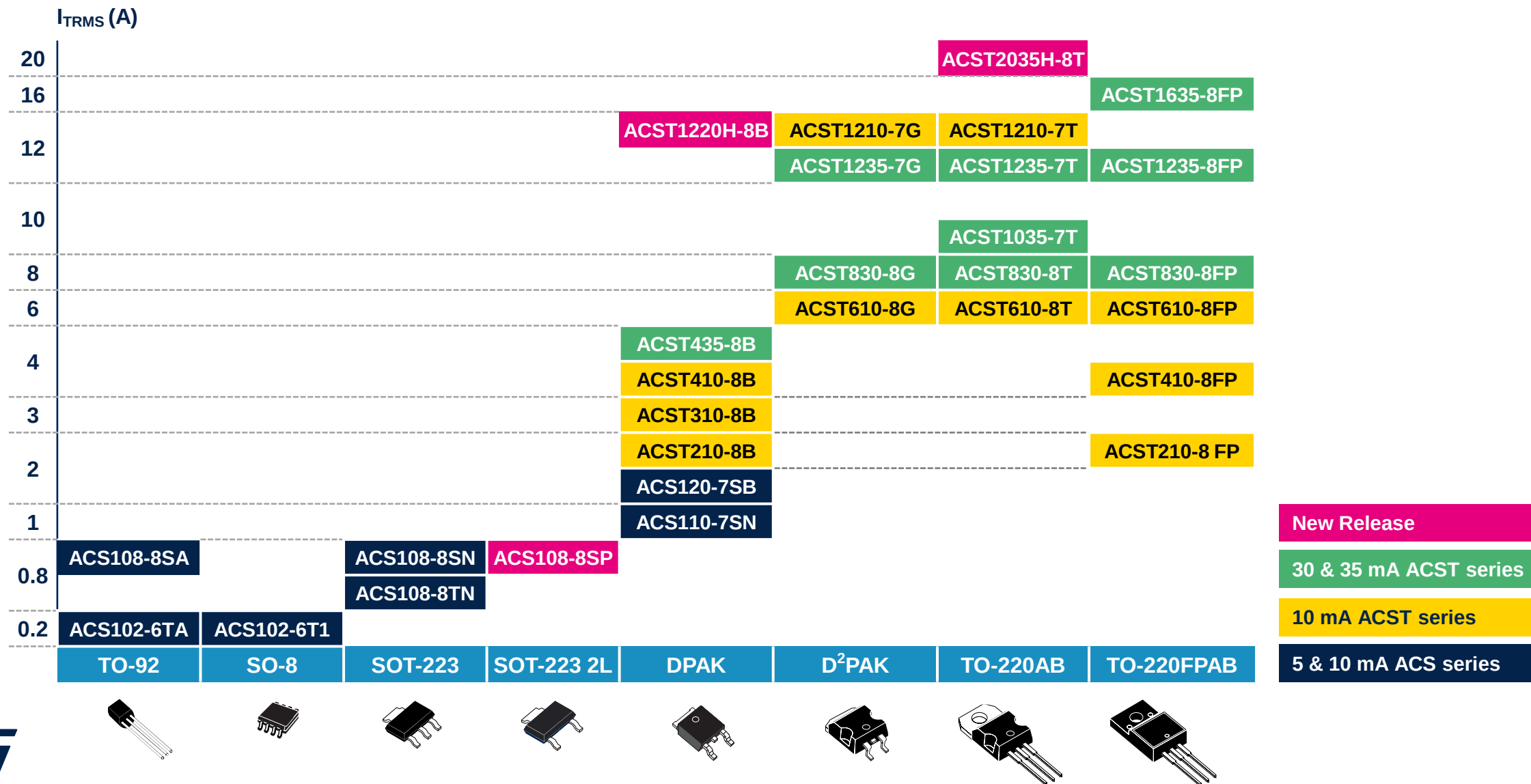
Surge Voltage in
fold back mode: +/- 2kV



Surge at least every 60 s

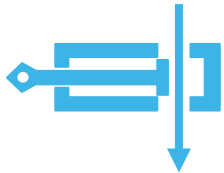


ACS / ACST switches for highly robust applications

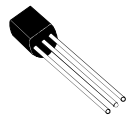




ACS switches for robust low-power loads

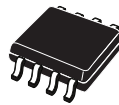


Logic - Level ACS								
Part Number	Package	$I_{T(RMS)}$	V_{DRM} / V_{RRM}	I_{GT}	I_{TSM}	dV/dt	$(dI/dt)_c$	Max. T_J
		A	V	mA	A	V/ μs	A/ms	$^{\circ}C$
ACS102-6T1 (TA)	SO-8 (TO-92)	0.2	600	5	7	300	0.15	125
ACS108-8TN	SOT-223	0.8	800	5	13	600	0.8	
ACS108-8SN (SA)	SOT-223 (TO-92)	0.8	800	10	13	2000	2	
ACS110-7SN	SOT-223	1	700	10	11	500	0.5	
ACS120-7SB	DPAK	2	700	10	20	500	1	

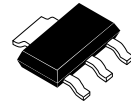


TO-92

Through hole

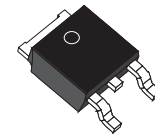


SO-8



SOT-223

Surface Mount



DPAK



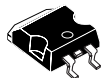
ACST triacs for robust medium power loads



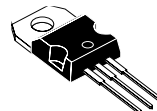
PACKAGE						I _{T(RMS)}	V _{DRM} / V _{RRM}	I _{GT}	I _{TSM}	dV/dt	(dI/dt) _c	Max. T _J
PART NUMBER	DPAK	D2PAK	TO-220AB	TO-220 Full Pack	IPAK	A	V	mA	A	V/μs	A/ms	° C
Logic level (Direct MCU drive)												
ACST210-8	B			FP		2	800	10	8	500	0.5	125
ACST310-8	B					3			20	500	1	
ACST410-8	B			FP		4			30	500	2	
ACST610-8		G	T	FP		6	700		45	500	3.5	
ACST1010-7			T			10			100	200	4	
ACST1210-7		G				12			120	200	5	
Snubberless™, I _{GT} > 30 mA												
ACST435-8	B			FP		4	800	35	30	1000	5	125
ACST830-8		G	T	FP		8		30	80	2000	8	
ACST1035-7		G	T			10	700	35	100	2000	12	
ACST1235-7		G	T			12			120	2000	14	
ACST1220H-8	B				H	12	800	20	100	1000	9	150
High-temperature Snubberless™, I _{GT} > 35 mA												
ACST1235-8				FP		12	800	35	120	2000	6	150
ACST1635-8				FP		16			140	300	4	
ACST2035H-8			T			20			160	1000	30	



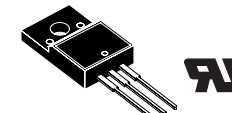
DPAK



D2PAK



TO-220AB



TO-220FPAB

Surface Mount

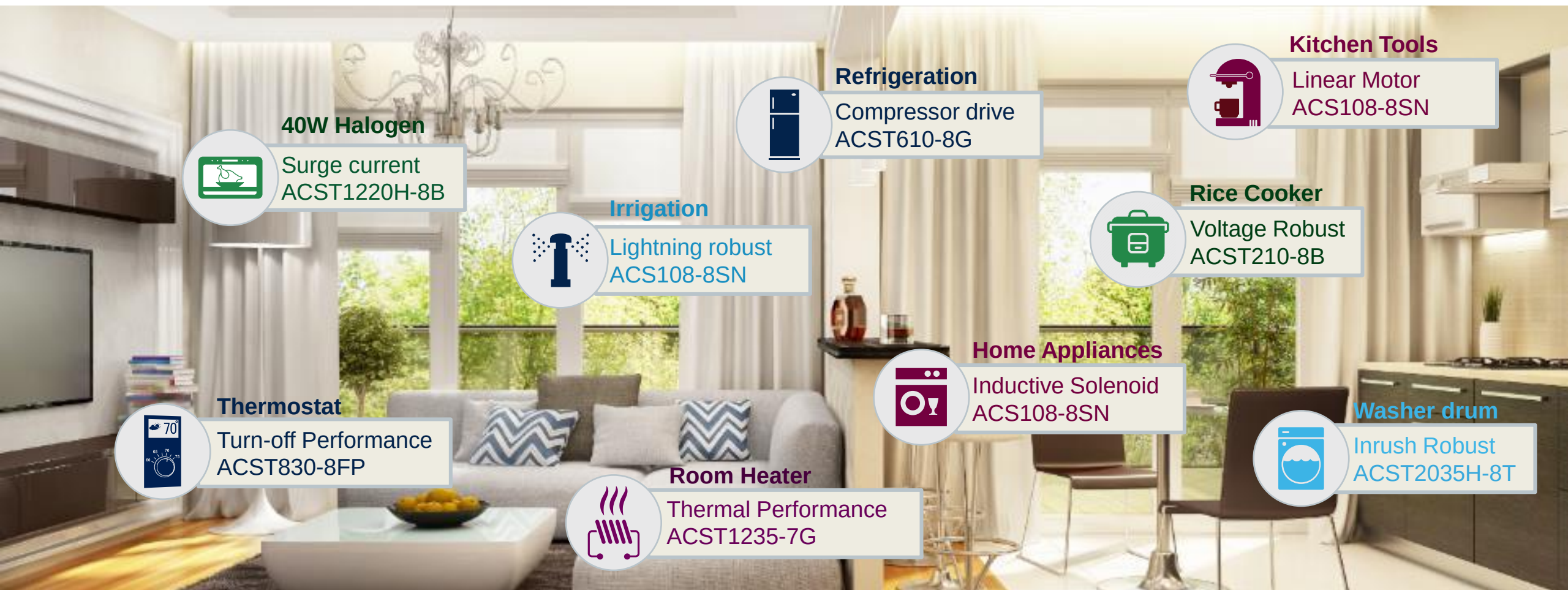
Non-Insulated

2kV Insulated (UL)

STMicroelectronics, Thyristors and AC Switches

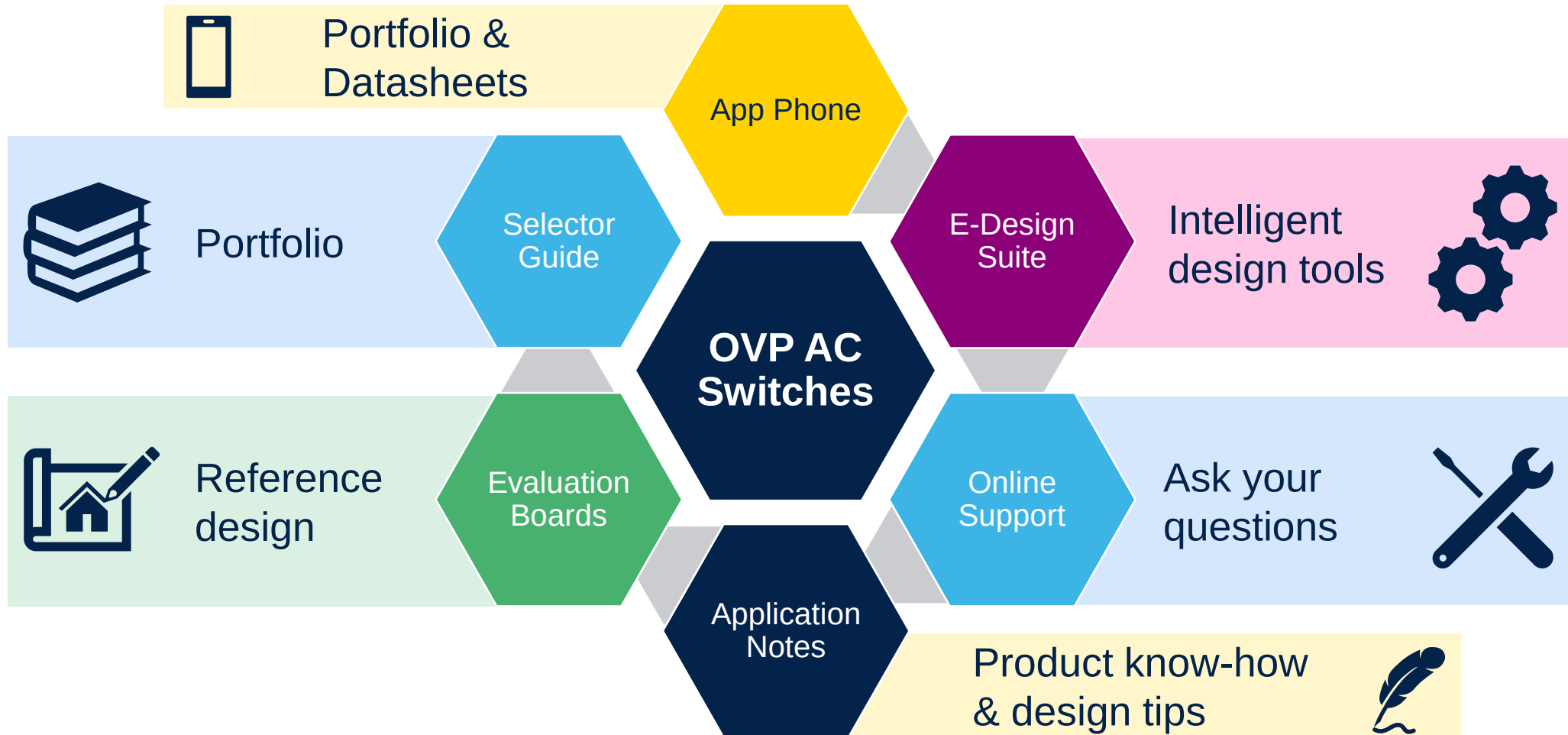


In the Connected Home





Want to know more ?



Our technology starts with You



Find out more at www.st.com/en/thyristor-scr-ac-switches.html

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