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T-series Triacs for Home appliances

Discrete and Filter Division

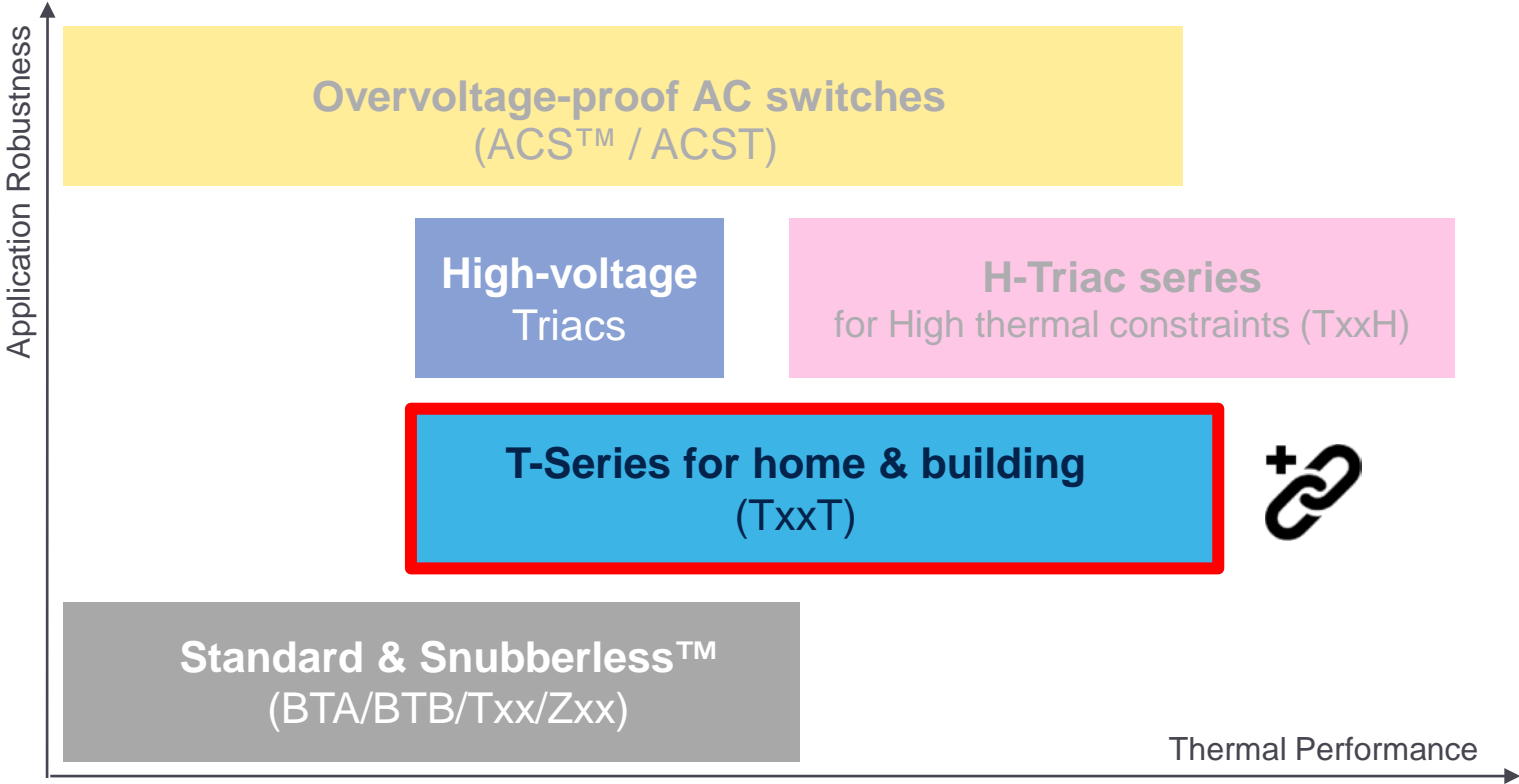
Automotive and Discrete Group



T-series Triacs

T-Series Triacs improves system's EMI immunity

**Bidirectional
Conducting**





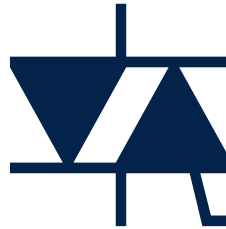
T-series Triacs for Home & Building automation





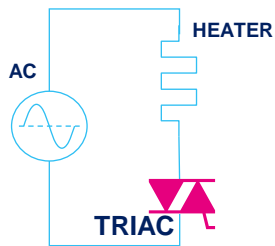
T-series features & benefits

- 150°C Junction Operation
- High Turn-off and Noise Immunity
- Up to 800 V Blocking Voltage
- Wide package selection

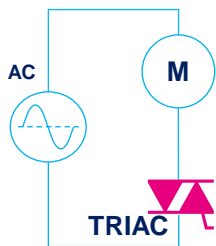


- Improved Thermal Performance
- Application Robustness against EMI
- Functional Reliability
- Compact / Innovative Designs

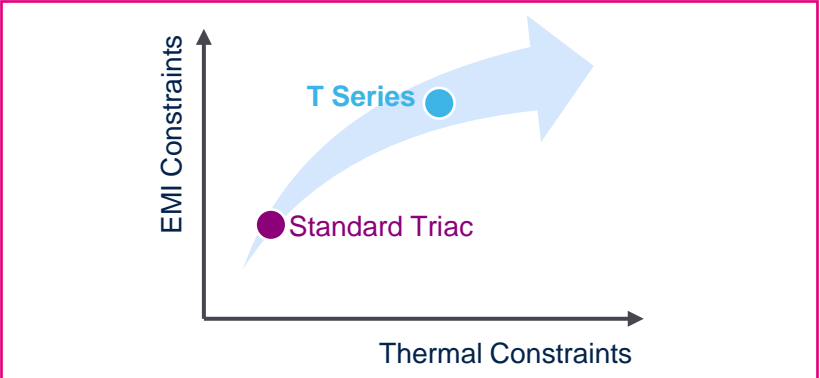
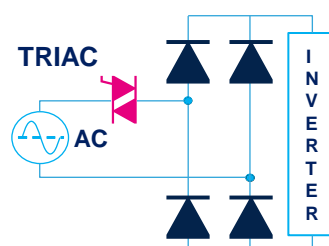
Heater / thermostat



Speed drive



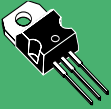

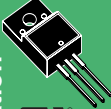
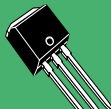

Inrush current limiter

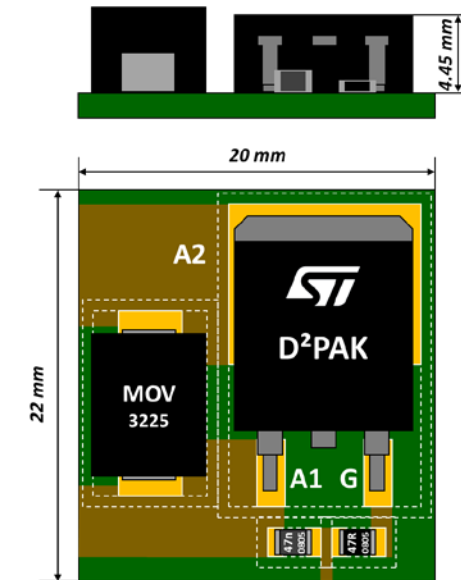




150°C T-series Triac portfolio at a glance

A full D²PAK range for compact solutions and automatic board assembly

Package (suffix)						RMS on-state current
Generic Part Number	TO-220AB	TO-220AB Ins 2.5k V Isolation	TO-220FPAB 2kV isolation	FPAB	D ² PAK	max. (A)
Logic Level (direct drive by MCU) = Max. Triggering gate current (I_{GT}) of 10 mA						
T610T-8	I		FP			6
T810T-8	I		FP		G	8
T1210T-8	I		FP		G	12
T1610T-8	I	I	FP		G	16
Snubberless™ = Max. Triggering gate current (I_{GT}) of 35 mA						
T635T-8	I		FP			6
T835T-8	I	I	FP		G	8
T1235T-8	I	I	FP	R	G	12
T1635T-8	I	I	FP		G	16
T2035T-8					G	20
T2535T-8	I	I			G	25
Max. Repetitive peak off-state voltage (V_{DRM} , V_{RRM}) = 800 V						



T-series Triacs challenges and solutions

CHALLENGE

SOLUTION

BENEFIT

Drive high current inductive loads

Twice better turn-off commutation

No RC network required

Higher voltage robustness

$V_{\text{DRM/RRM}} = 800\text{V}$, $V_{\text{DSM/RSM}} = 900\text{V}$

Easier Triac selection
Smaller MOV protection

Improve EMI Immunity

$dV/dt = \text{Up to } 1\text{kV}/\mu\text{s @ } 150^\circ\text{C}$

Eases EMI std compliance
IEC61000-4-4, IEC61000-4-5



Application Robustness Parameters

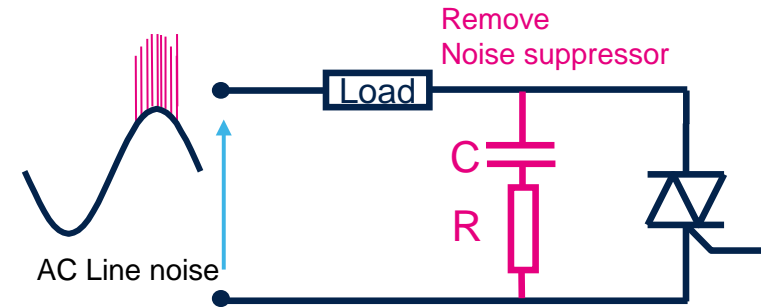
Noise Immunity dV/dt , Turn-Off Commutation $(dI/dt)_c$

T-series Triacs offer high immunity and commutation
→ Remove snubber for difficult loads

dV/dt

Voltage spikes lead to false turn-on

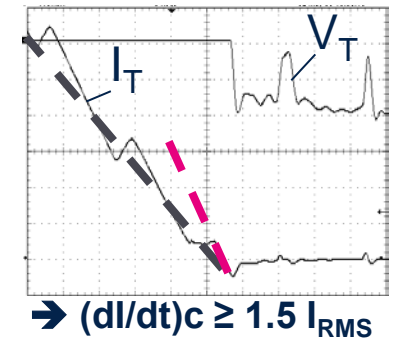
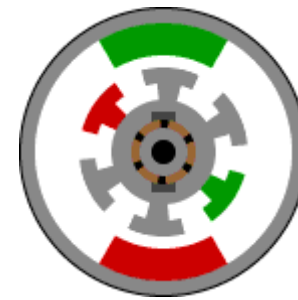
High dV/dt immunity protects against false triggering



$(dI/dt)_c$

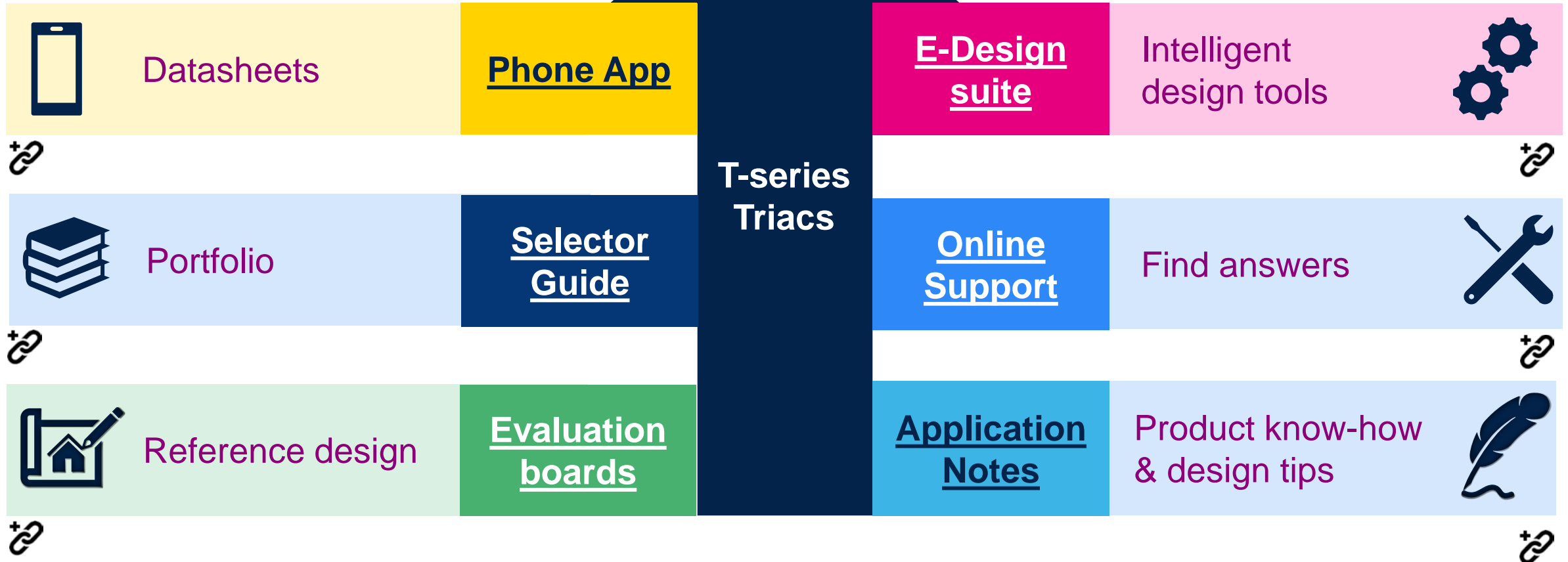
Motor brush transient current impairs turn-off

High $(dI/dt)_c$ capability commutation





Your Design support & Tools



Our technology starts with You



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

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