

Surface-Mount Rectifiers Boost Density Of Power Supplies And Motor Controls

[Taiwan Semiconductor's](#) TUAS8X SMD rectifier series offers 8-A, 200- to 1000-V surface-mount rectifiers that enable designers to increase the power density of their power supply and motor control circuits. The series replaces standard SMC products with a new package that has a much better thermal resistance (see the figure and the table.)

The TUAS8X rectifiers are well suited for applications up to 1 kW. These products are manufactured using planar technology and have a low leakage current and competitive V_f specification. The I_{FSM} is 230 A.

Other features include a low profile, a wettable flank SMPC that allows for automated optical inspection of the solder joint, a level 1 moisture sensitivity level per J-STD-020, and halogen-free composition according to IEC 61249-2-21. Samples and products are in stock and available now. For more information, see the [datasheet](#) .



Figure. The TUAS8X SMD rectifier series is housed in the SMPC4.6U case, which offers a junction-to-case thermal resistance of 8°C/W.

Table. Thermal resistances of the TUAS8X SMD rectifier series.

Parameter	Value
Junction-to-lead thermal resistance, $R_{\theta JL}$	4°C/W
Junction-to-ambient thermal resistance, $R_{\theta JA}$	38°C/W
Junction-to-case thermal resistance, $R_{\theta JC}$	8°C/W