

DFN2020 – Squeezing in more power under the hood

Nexperia's AEC-Q101 qualified, 175°C rated, DFN2020 MOSFETs with side-wettable flanks for AOI, give designers a space saving option for under the hood applications

As we continue to add electronic functionality under the hood, the demand for component miniaturization and increased power density grows. However, from a quality and reliability perspective under the hood semiconductors need to be rated to 175 °C and offer full automatic optical inspection (AOI) capabilities. With the launch of Nexperia's first AEC-Q101 qualified MOSFETs in the 2 x 2 mm DFN2020 package rated to 175 °C and with side-wettable flanks for AOI, designers now have a weight and space saving option for applications operating in the 1 A to 10 A range with a maximum power of 15 W.

This latest addition to our automotive MOSFET portfolio expands the range of options designers have for under the hood applications. It enables greater flexibility in selecting the best electrical and thermal performance to meet specific application requirements. Designers can choose from a broad range of power and $R_{DS(on)}$ values in both our extremely robust LFPACK packages and now in this smaller 2 x 2 mm package. With both N-channel and P-channel options these new DFN2020 devices are particularly suited to medium-current load-switching applications and DC/DC conversion for motor management.

DFN2020 automotive MOSFETs

Device	Gate level	Polarity	$V_{DS(max)}$ (V)	$R_{DS(on)[max]}$ @ 10V [mΩ]	$I_D [max]$ @ 25°C [A]	$R_{th(j-sp)}$ [max] [K/W]
BUK6D23-40E	Intermediate	N	40	23	19	10
BUK9D23-40E	Logic	N	40	23	19	10
BUK7D25-40E	Standard	N	40	25	19	10
BUK6D43-40P	Intermediate	P	40	43	-14	10
BUK6D43-60E	Intermediate	N	60	43	13	10
BUK6D120-60P	Intermediate	P	60	120	-8	10