

Product brief

RC-H5: reverse conducting IGBT

High performance IGBTs for induction cooking appliances

The additional current classes 30 A and 40 A RC-H5 devices complete the latest RC-H5 generation of reverse conducting IGBTs developed and optimized for the rigorous requirements of induction cooking applications, maintaining the performance leadership of the RC-H family, focusing on system efficiency and reliability.

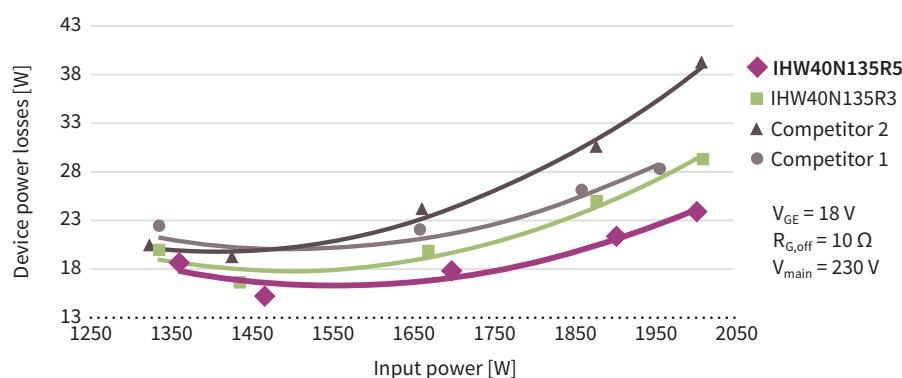
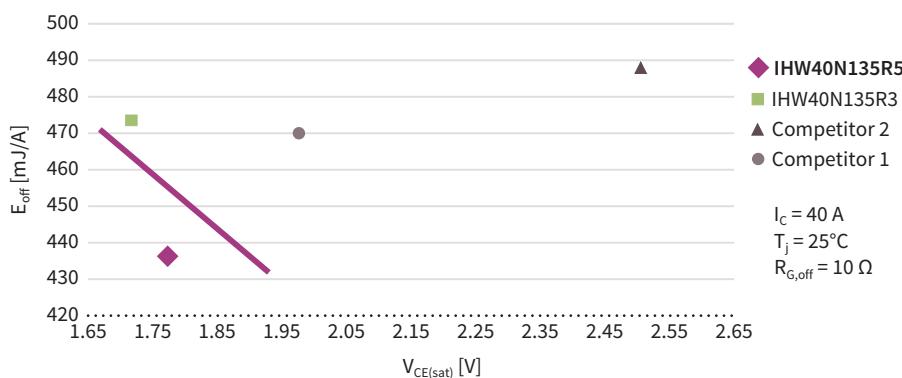
The higher switching frequencies enabled by 20 percent reduction in switching losses allow the reduction of system cost by using smaller coils or increasing the efficiency.

Improvements in thermal performance and reduced power dissipation, even by higher ambient temperatures and stress conditions, guarantee better reliability.

Soft switching capabilities result in better EMI behavior leading to less filtering requirements and lower system costs. The RC-H5 family is offered in two new current classes 30 A and 40 A, in addition to 20 A with blocking voltages of 1200 V and 1350 V.

Key features

- › Switching losses reduced by 20 percent
- › Very low conduction losses
- › Reduced turn-on current spike up to 10 percent
- › $T_{j(\max)} = 175^\circ\text{C}$
- › Soft current turn-off waveforms for low EMI
- › Higher blocking voltage $V_{BR(\min)} = 1350\text{ V}$
- › TO247 3pin



Key benefits

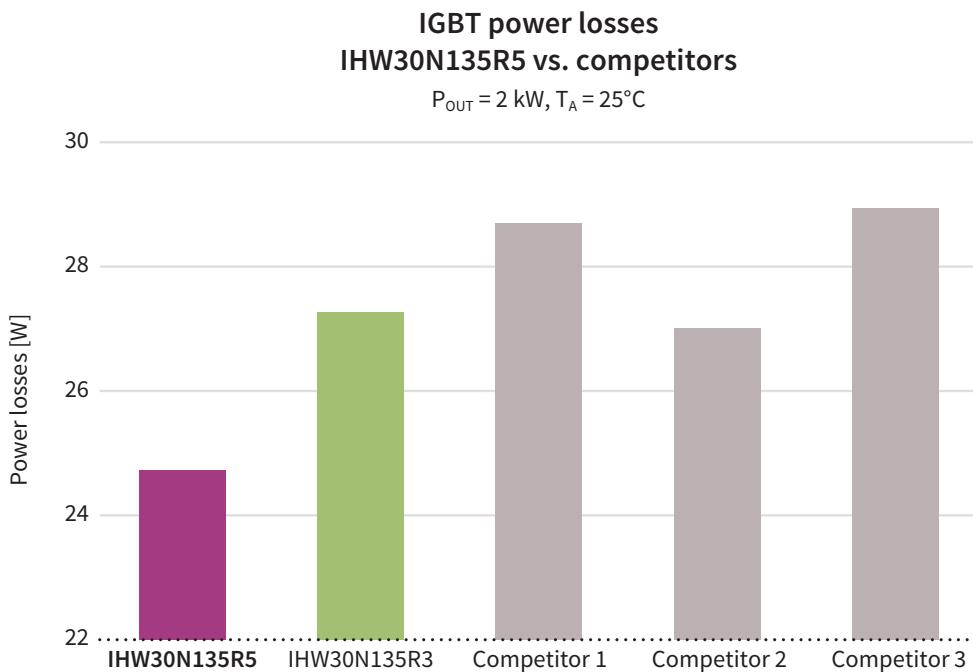
- › Increased switching frequency
- › Lowest power dissipation
- › Better thermal management for higher reliability
- › Lower EMI filtering requirements
- › Reduced system costs
- › Highest reliability against peak currents



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The RC-H5 devices offer significant reductions in switching losses, up to 20 percent. These lower losses allow systems to operate at higher switching frequencies. An increase in frequency allows designers to optimize for their unique system needs.



RC-H5 product family key parameters

Product type	$I_c @ 100^\circ\text{C}$ [A]	V_{BR} [V]	$V_{CE(sat)} @ 25^\circ\text{C}, I_{nom}$ [V]	$E_{off,soft} @ 25^\circ\text{C}, I_{nom}$ [mJ]	$V_F @ 25^\circ\text{C}, I_{nom}$ [V]	$I_F @ 100^\circ\text{C}$ [A]
IHW20N120R5	20	1200	1.55	0.08	1.60	20
IHW20N135R5	20	1350	1.65	0.15	1.65	20
IHW30N120R5	30	1200	1.55	0.12	1.80	30
IHW30N135R5	30	1350	1.65	0.17	1.85	30
IHW40N120R5	40	1200	1.60	0.22	1.90	40
IHW40N135R5	40	1350	1.70	0.29	1.95	40

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