Product brief

650V rad hard PowerMOS FETs

License-free, based on Infineon CoolMOS™ technology

Based on the unique Infineon CoolMOS superjunction technology, the rad hard 650V N-channel PowerMOS FETs are the worldwide benchmark in radiation hardness and electrical performance. The TID hardness is specified up to 100krad and SEE was tested up to LET62 with Xe and LET90 with Pb ions.

With the extremely low specific $R_{DS(on)}$, and comfortable Safe Operating Area (SOA), Infineon now offers best in class radiation hard 650V Power MOSFET transistors for multiple space applications.

The low $R_{DS(on)}$ leads to a leapfrog in figure of merit ($R_{DS(on)}$*Qg): it is >5x lower than existing 600V devices. The devices have an internal coating to meet vacuum requirements.

All rad hard PowerMOS are available as qualified bare die as well.

Potential applications

- DC-DC converters
- Motor controllers
- Switch mode power supply
- Ion propulsion systems

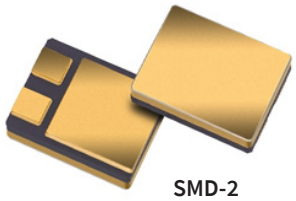
Product validation

- BUY65CS08-01(ES) ESA Space Qualified ESCC Detail Spec. No.: 5205/033/01
- BUY65CS28-01(ES) ESA Space Qualified ESCC Detail Spec. No.: 5205/033/02

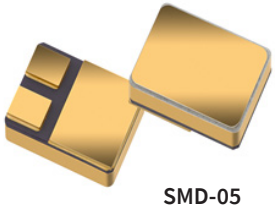
Visit www.infineon.com/radhardmos to learn more.

Key features

- Best-in-class $R_{DS(on)}$
- Single Event Effect (SEE) hardened
- LET 90, Range: 122µm (Pb)
  VGS = -10V, VDS = 650V,
  approved VGS = -12V, VDS = 350V
- LET 62, Range: 72µm (Xe)
  VGS = -15V, VDS = 650V,
  VGS = -20V, VDS = 350V approved
- Total Ionization Dose (TID) hardened
  100kRad approved (Level R)
- Hermetically sealed



SMD-2



SMD-05

Defense technology | Space | High system reliability

www.infineon.com/hirel

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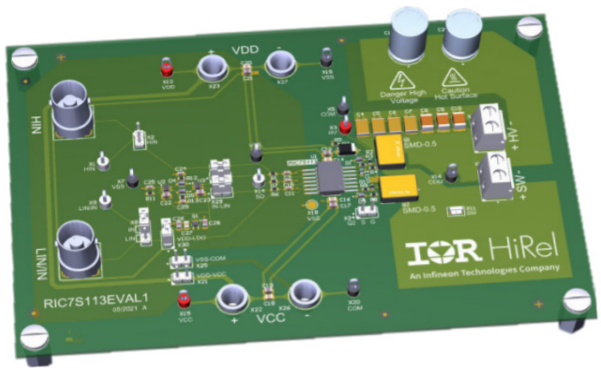
Evaluation board

We offer a 400V rad hard gate driver evaluation board for space power applications. RIC7S113EVAL1 is an open loop half bridge board featuring IR HiRel's RIC7S113 and Infineon's BUY65CS08J-01 650V PowerMOS rad hard MOSFET.

Visit www.infineon.com/ric7s113 to learn more.



Product name	ESCC reference	$R_{DS(on)}$ (mΩ)	I_D max (A)	Package	P_{tot} max (W)
BUY65CS08J-01(ES)	5205/033/01	370	8	SMD-05	75
BUY65CS08J-01(P)	-	370	8	SMD-05	75
BUY65CS28A-01(ES)	5205/033/02	116	28	SMD-2	250
BUY65CS28A-01(P)	-	116	28	SMD-2	250
CHIPL5452B(ES)	-	370	8	-	75
CHIPL5452B(P)	-	370	8	-	75
CHIPL5454A(ES)	-	116	28	-	250
CHIPL5454A(P)	-	116	28	-	250

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