

MV MOSFET for DC-DC Converter

Gen. 2 SGT MOSFET with Excellent Figure of Merit



DC/DC converter is a power conversion system widely applied for industrial devices, such as telecom base stations and industrial power towers. With its excellent FOM ($R_{on} \cdot Q_g$) quality and outstanding performance, PANJIT's second generation Shielded-Gate Trench (SGT) MOSFETs provide easy and efficient design solutions for DC-DC converter systems as well as various applications of LLC, PSFB, and Synchronous Buck circuits.

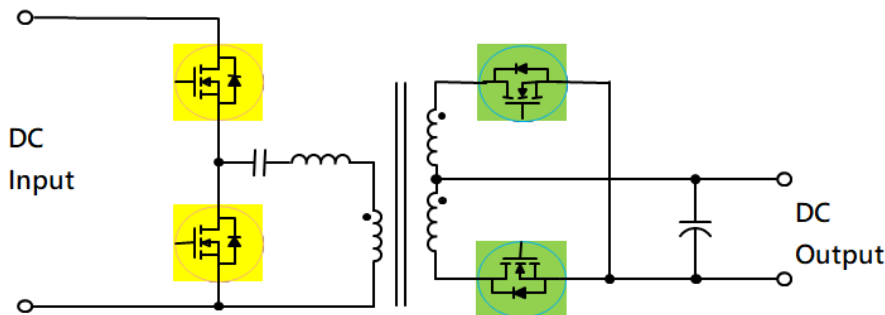
➤ Key Features

- Second Generation Shielded-Gate Trench Technology
- Extremely Low Q_g Figure-of-Merit (FOM)
- Low $R_{DS(on)}$ to Minimize Conduction Losses
- Outstanding System Efficiency for Greener Products
- Optimized for high switching and low spiking

➤ Target Applications

- Brick Power (Telecom power)
- POL
- Server Power
- Industrial Power
- Adaptor/ Charger

➤ DC-DC converter (Brick Power) Block Diagram

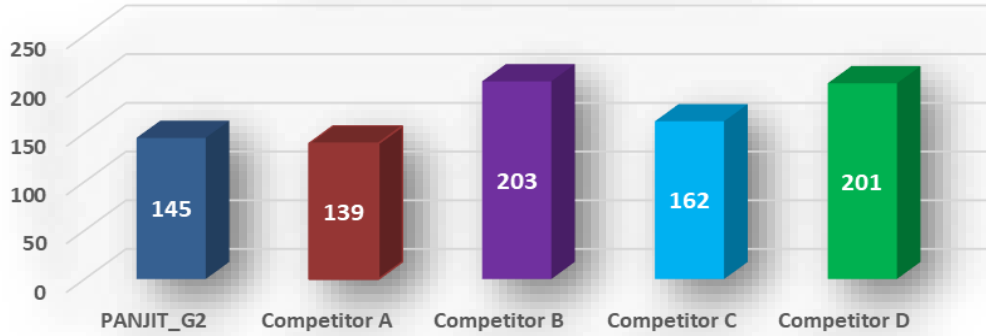


➤ Brick Size Options

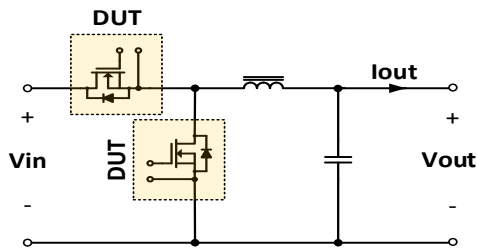
Type	Half Brick	Quarter Brick	Eighth Brick	Sixteenth Brick	Thirty-second Brick
Size(L x W)	2.3" x 2.4"	2.3" x 1.45"	2.3" x 0.9"	1.3" x 0.9"	0.92" x 0.75"

► FOM Performance Comparison

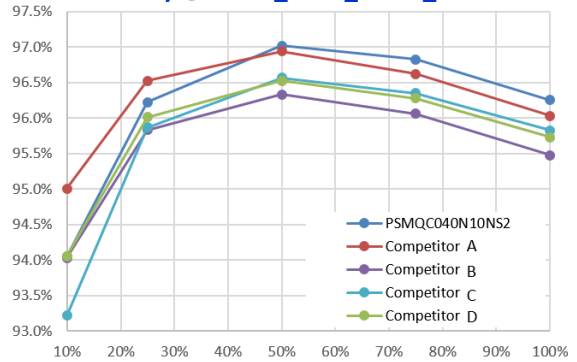
100V SGT Gen.2 FOM (mΩ*nC)



► System Evaluation



Efficiency @ 48Vin_12Vo_285W_250kHz



► Products

BV	VGS	Vth	RDS(ON) @10V	TOLL	TO-263	DFN5060-8L DFN5060X-8L	DFN3333-8L DFN3333S-8L	TO-220AB-L	TO-252
V	V	V	Typ. (mΩ)						
100	20	2.8	1.2	PSMN015N10NS2*	-	-	-	-	-
			2.3	-	-	PSMQF026N10NS2*	-	-	-
			2.4 / 2.8	PSMN028N10NS2*	PSMB033N10NS2*	-	-	PSMP033N10NS2*	-
			3.2	-	-	PSMQF037N10NS2*	-	-	-
			3.8 / 4.3	-	PSMB050N10NS2	PSMQC040N10NS2	-	PSMP050N10NS2	-
			6.6	-	-	PSMQC074N10NS2	-	-	-
			8.3 / 8.4 / 9.7	-	-	PSMQC094N10NS2	PSMQE093N10NS2*	PSMP110N10NS2*	PSMD110N10NS2*
			47.0	-	-	-	PSMQB550N10NS2*	-	-

BV	VGS	Vth	RDS(ON) @10V	DFN5060-8L DFN5060X-8L	DFN3333S-8L	TO-252
V	V	V	Typ. (mΩ)			
100	20	1.7	3.1	PSMQF036N10LS2*	-	-
			3.6	PSMQC042N10LS2	-	-
			6.8 / 7.3	PSMQC078N10LS2	-	PSMD081N10LS2*
			8.6 / 8.9	PSMQC098N10LS2	-	PSMD099N10LS2*
			12.5	PSMQC144N10LS2*	-	PSMD144N10LS2*
			24.0	PSMQC280N10LS2	PSMQB280N10LS2*	PSMD280N10LS2*

* in development