

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.

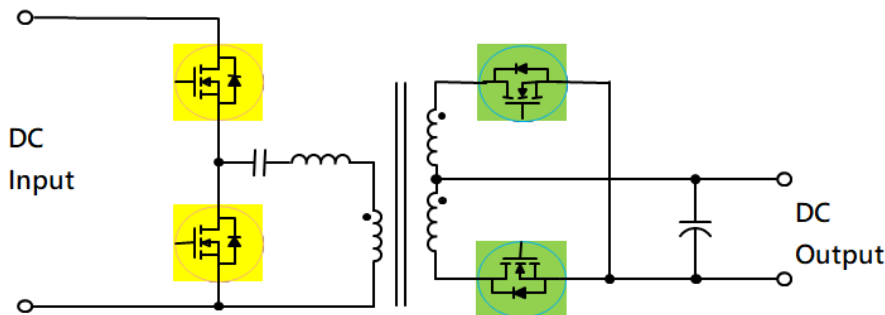
➤ Key Features

- 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

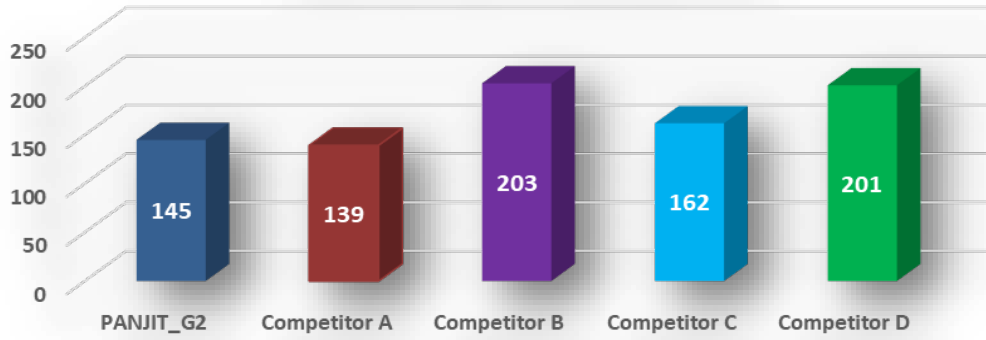


➤ Brick Size Options

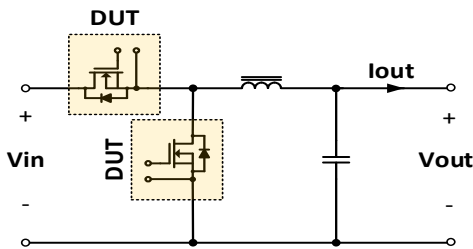
Type	Half Brick	Quarter Brick	Eighth Brick	Sixteenth Brick	Thirty-second Brick
Size(L x W)	2.3" x 2.4"	2.3" x 1.45"	2.3" x 0.9"	1.3" x 0.9"	0.92" x 0.75"

► FOM Performance Comparison

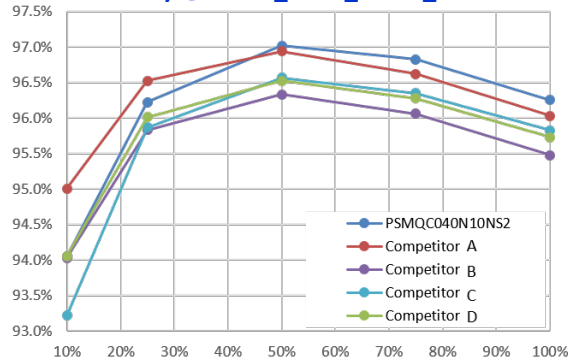
100V SGT Gen.2 FOM (mΩ*nC)



► System Evaluation



Efficiency @ 48Vin_12Vo_285W_250kHz



► Products

BV	R _{DS(on)}		V _{GS(th)}	DFN3333-8L DFN3333S-8L	DFN5060-8L DFN5060S-8L DFN5060X-8L	TO-252AA	TO-263AB TO-263AB-L	TO-220AB	TOLL
	10V	4.5V		Typ.(mΩ)	(V)				
100	8.4	-	2.8	PSMQE093N10NS2	PSMQC094N10NS2	PSMD110N10NS2*			
	6.6	-			PSMQC074N10NS2				
	3.8	-			PSMQC040N10NS2		PSMB050N10NS2	PSMP050N10NS2	
	3.2	-			PSMQF037N10NS2*				
	2.4	-			PSMQF028N10NS2*		PSMB033N10NS2	PSMP033N10NS2	PSMN028N10NS2
	1.2	-							PSMN015N10NS2
100	24	30	1.7	PSMQB280N10LS2	PSMQC280N10LS2	PSMD280N10LS2*			
	12.5	15.5			PSMQC144N10LS2	PSMD144N10LS2*			
	8.6	11.3		PSMQE096N10LS2	PSMQC098N10LS2	PSMD099N10LS2			
	6.8	8.7			PSMQC078N10LS2	PSMD081N10LS2			
	3.6	4.6			PSMQC042N10LS2				
80	4	-	2.8		PSMQC046N08NS2*				
	3.3	-			PSMQC040N08NS2				
	1.5	-			PSMQF020N08NS2				
80	7.1	9.3	1.7	PSMQE090N08LS2					
	5.6	7.6		PSMQE070N08LS2					

*Under Development / Package Limitation