

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 ($R_{DS(on)} * Q_g$) 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.

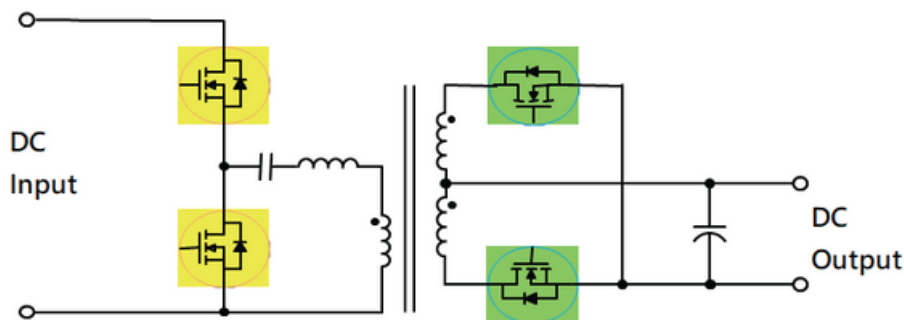
► Key Features

- 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

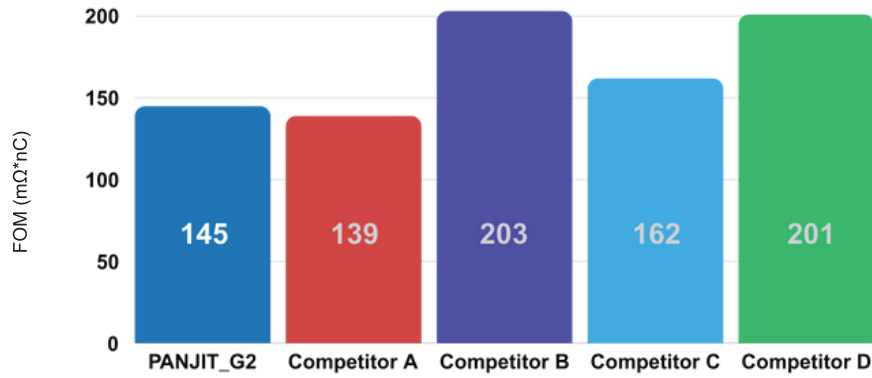


► Brick Size Options

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"

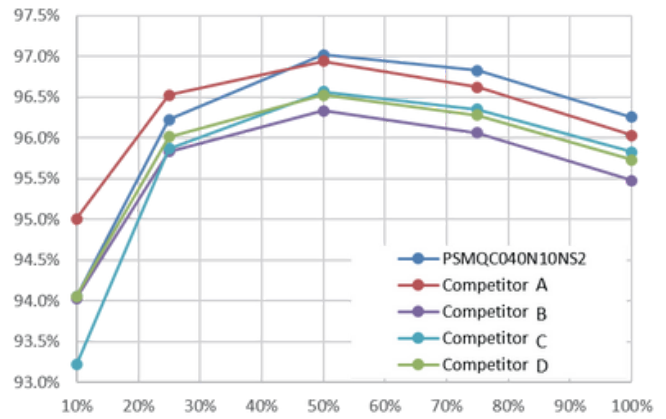
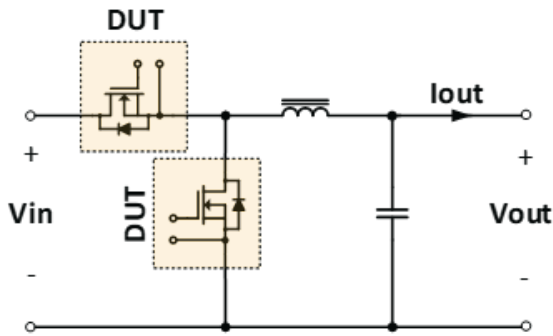


► FOM Performance Comparison 100 V SGT Gen.2 FOM (mΩ*nC)



► FOM Performance Comparison (285Watt DC-DC converter : 48Vin_12Vout_250kHz)

Efficiency @ Synchronous Buck Conv. 285 W, 12 Vout, 25 0kHz



► Products

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

- Package Limitation