Absolute Maximum Ratings at T_j=25 unless otherwise noted

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DS}	600	V
Gate-source voltage	V_{GS}	±30	V
Continuous drain current[1], T_C=25 °C	I_D	18	A
Continuous drain current[1], T_C=100 °C		11.5	
Pulsed drain current[2], T_C=25 °C	$I_{D, pulse}$	54	A
Continuous diode forward current[1], T_C=25 °C	I_S	18	A
Diode pulsed current[2], T_C=25 °C	$I_{S, pulse}$	54	A
Power dissipation[3], T_C=25 °C	P_D	110	W
Single pulsed avalanche energy[5]	E_{AS}	360	mJ
MOSFET dv/dt ruggedness, V_{DS}	dv/dt	50	V/ns
Reverse diode dv/dt, V_{DS} SD D	dv/dt	15	V/ns
Operation and storage temperature	T_{stg}, T_j	-55 to 150	°C

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal resistance, junction-case	R	1.14	°C/W
Thermal resistance, junction-ambient[4]	R	62	°C/W

Electrical Characteristics at T_j=25 unless otherwise specified

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Drain-source breakdown voltage	BV_{DSS}	600			V	V_{GS}=0 V, I_D=250 A
		650				V_{GS}=0 V, I_D , T_j=150 °C
Gate threshold voltage	$V_{GS(th)}$	2.9		3.9	V	V_{DS}=V_{GS}, I_D=250 A
Drain-source on-state resistance	$R_{DS(ON)}$		0.16	0.19		V_{GS}=10 V, I_D=5.6 A
			0.27			V_{GS}=10 V, I_D=5.6 A, T_j=150 °C
Gate-source leakage current	I_{GSS}			100	nA	V_{GS}=30 V
				-100		V_{GS}=-30 V
Drain-source leakage current	I_{DSS}			1	A	V_{DS}=600 V, V_{GS}=0 V
	R_G		24.2			f=1 MHz, Open drain

Dynamic Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Input capacitance	C_{iss}		660.8		pF	V_{GS}=0 V, V_{DS}=50 V, Hz
Output capacitance	C_{oss}		112.9		pF	
Reverse transfer capacitance	C_{rss}		3.5		pF	
Turn-on delay time	$t_{d(on)}$		24.2		ns	V_{GS}=10 V, V_{DS}=400 V, R_G=2 I_D=10 A
Rise time	t_r		23.9		ns	
Turn-off delay time	$t_{d(off)}$		47.2		ns	
Fall time	t_f		6.3		ns	

Gate Charge Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Total gate charge						

Electrical Characteristics Diagrams

Figure 1. Typ. output characteristics	**Figure 2. Typ. transfer characteristics**
Figure 3. Typ. capacitances	**Figure 4. Typ. gate charge**
Figure 5. Drain-source breakdown voltage	**Figure 6. Drain-source on-state resistance**

Test circuits and waveforms

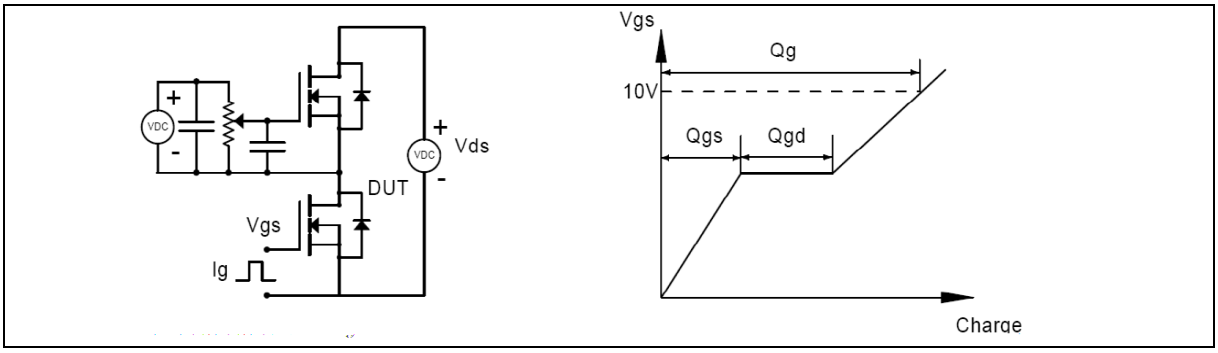


Figure 1. Gate charge test circuit & waveform

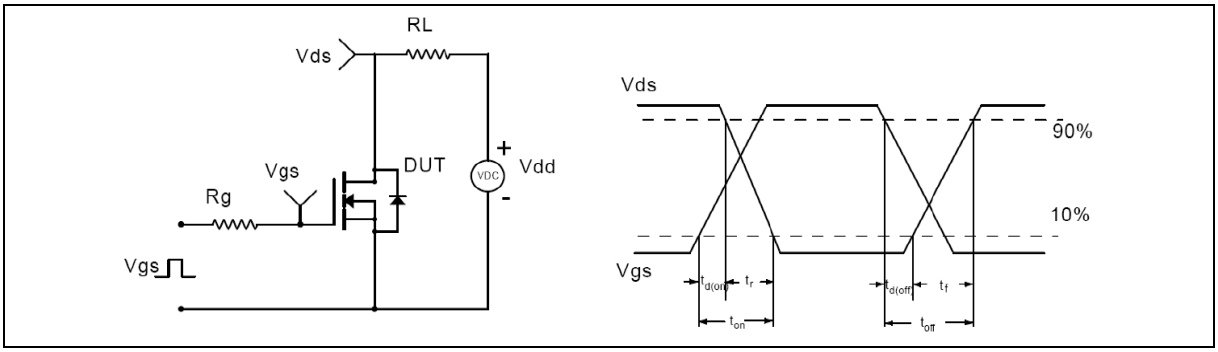


Figure 2. Switching time test circuit & waveforms

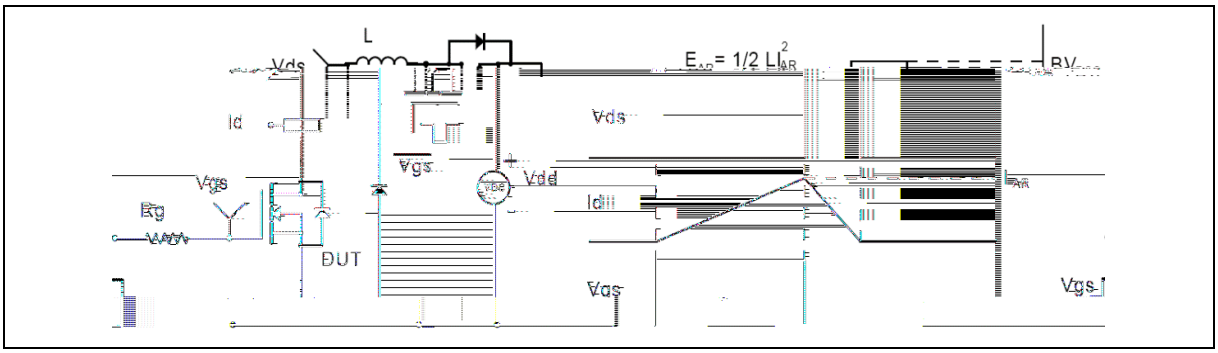


Figure 3. Unclamped inductive switching (UIS) test circuit & waveforms

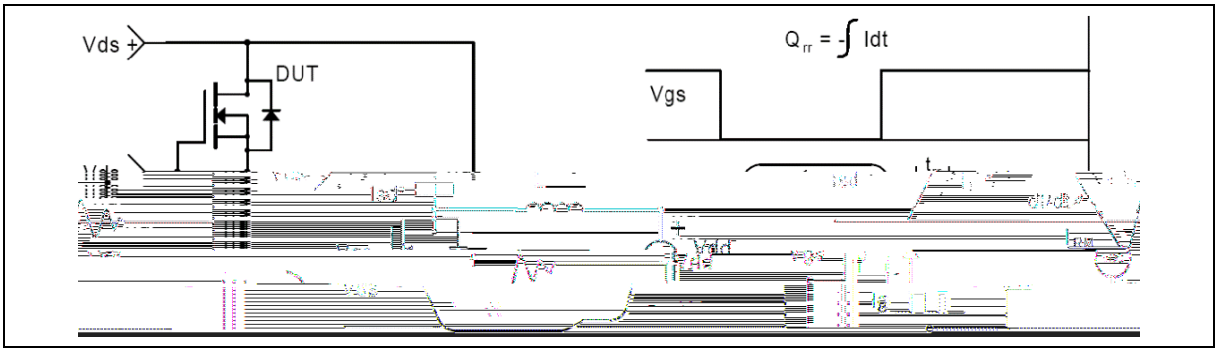
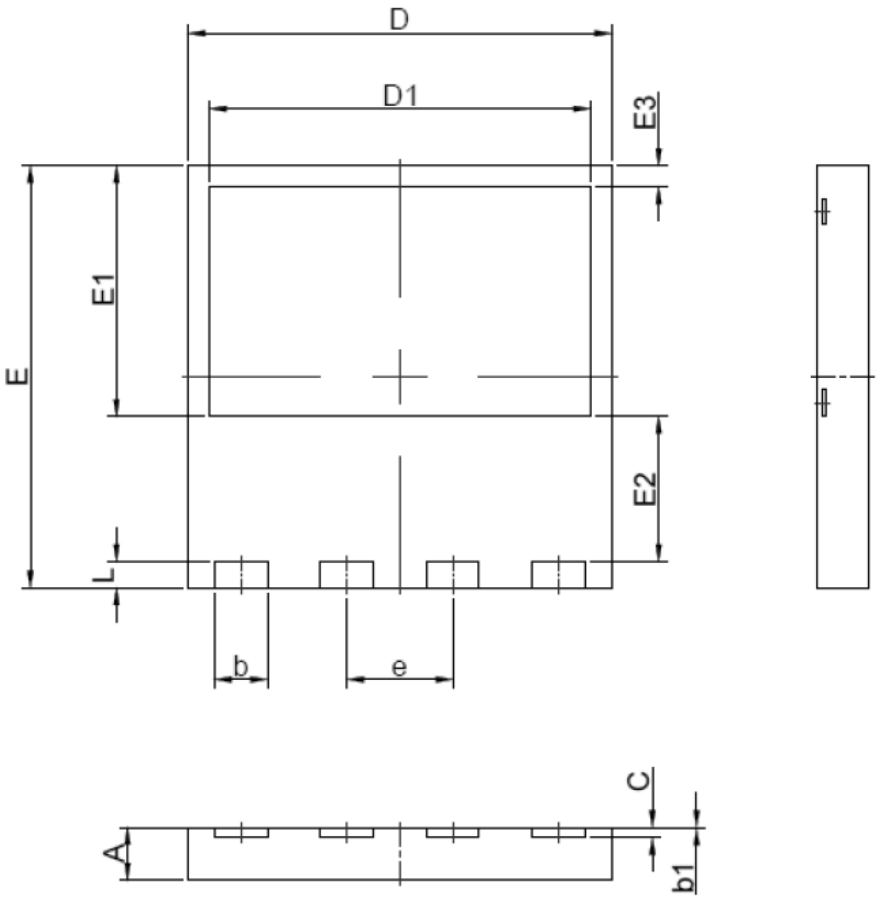


Figure 4. Diode reverse recovery test circuit & waveforms

Package Information



Symbol	mm		
	Min	Nom	Max
A	0.90	1.00	1.10
b	0.90	1.00	1.10
b1	0.00	0.02	0.05
C		0.2REF	
D	7.90	8.00	8.10
D1	7.10	7.20	7.30
E	7.90	8.00	8.10
E1	4.65	4.75	4.85
E2	2.65	2.75	2.85
E3	0.30	0.40	0.50
e		2.0BSC	
L	0.40	0.50	0.60

Version 1: PDFN 8×8-L package outline dimension

Package Information

Ordering Information

Package Type	Units/ Reel	Reels/ Inner Box	Units/ Inner Box	Inner Boxes/ Carton Box	Units/ Carton Box
PDFN 8×8-L	2500	1	2500	10	25000
PDFN 8×8-S	3000	1	3000	10	30000

Product Information

Product	Package	Pb Free	RoHS	Halogen Free
OSS60R190JF	PDFN 8×8	yes	yes	yes