

The GreenMOS[®] high voltage MOSFET utilizes charge balance technology to achieve outstanding low on-resistance and lower gate charge. It is engineered to minimize conduction loss, provide superior switching performance and robust avalanche capability.

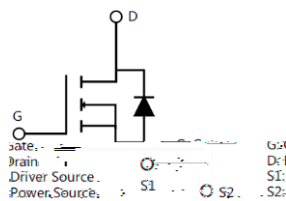
GreenMOS[®]



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Parameter	Value	Unit
$V_{DS, min} @ T_{j(max)}$	700	V
$I_D, pulse$	54	A
$R_{DS(ON), max} @ V_{GS}=10V$	240	
Q_g	13.1	nC

Product Name	Package	Marking
OSS65R240JF	PDFN 8x8	OSS65R240J



Absolute Maximum Ratings at $T_j=25$ unless otherwise noted

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DS}	650	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}	212	mJ
MOSFET dv/dt ruggedness, V_{DS}	dv/dt	50	V/ns
Reverse diode dv/dt, V_{DS}	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

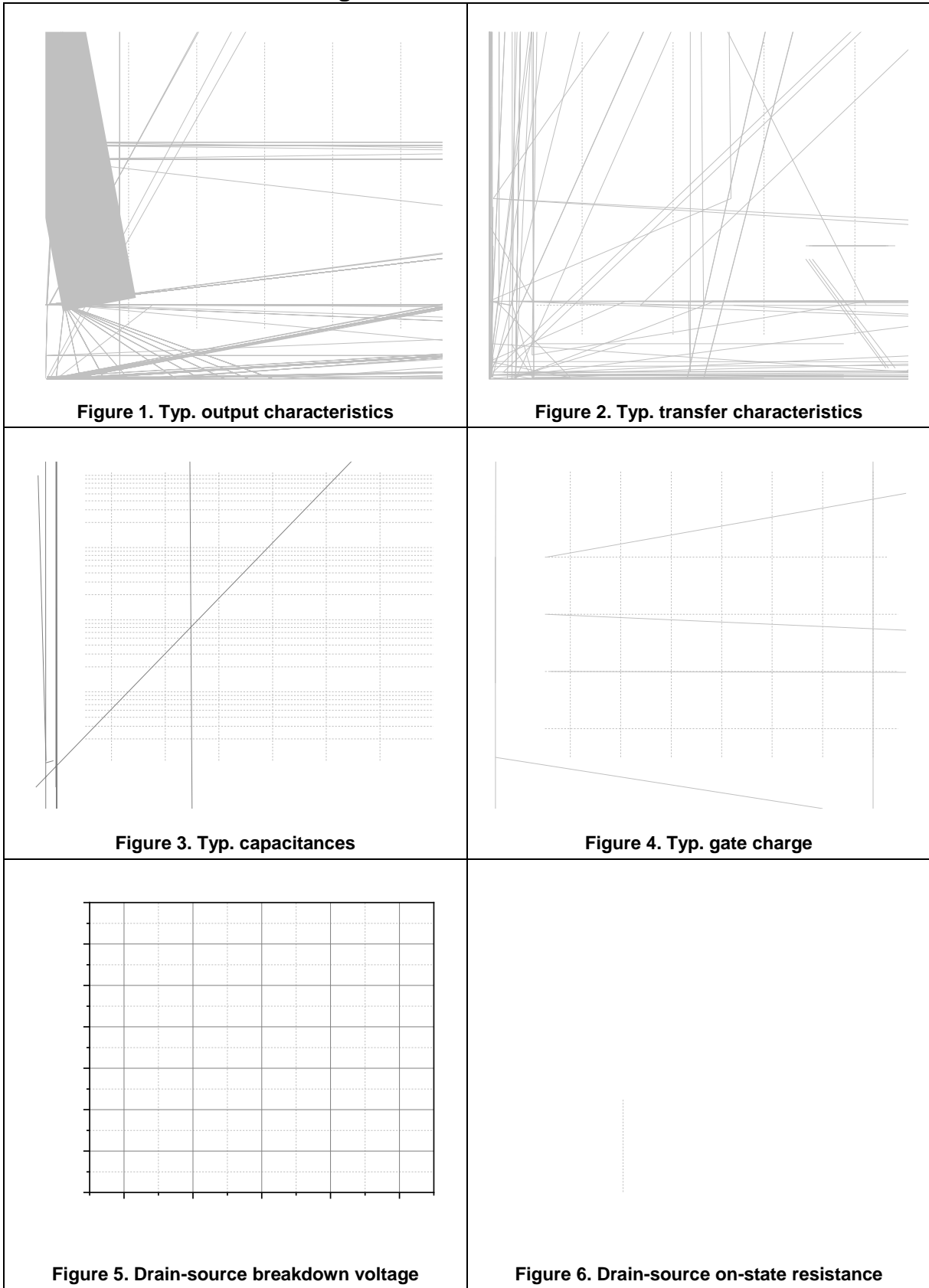
Electrical Characteristics at $T_j=25$ unless otherwise specified

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Drain-source breakdown voltage	BV_{DSS}	650			V	$V_{GS}=0$ V, $I_D=250$ A
		700				$V_{GS}=0$ 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	$R_{DS(ON)}$		0.19	0.24		$V_{GS}=10$ V, $I_D=5.6$ A
			0.42			$V_{GS}=10$ 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	$V_{DS}=650$ V, $V_{GS}=0$ V
	R_G		23			f=1 MHz, Open drain

Dynamic Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Input capacitance	C_{iss}		673		pF	$V_{GS}=0\text{ V}$, $V_{DS}=50\text{ V}$, 00 kHz

Electrical Characteristics Diagrams



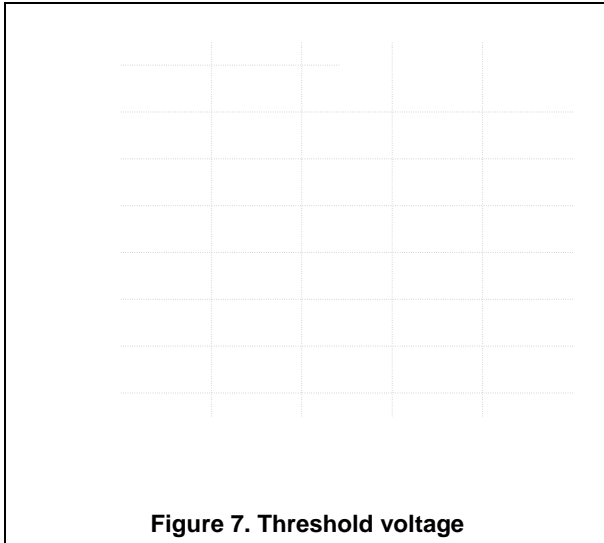


Figure 7. Threshold voltage

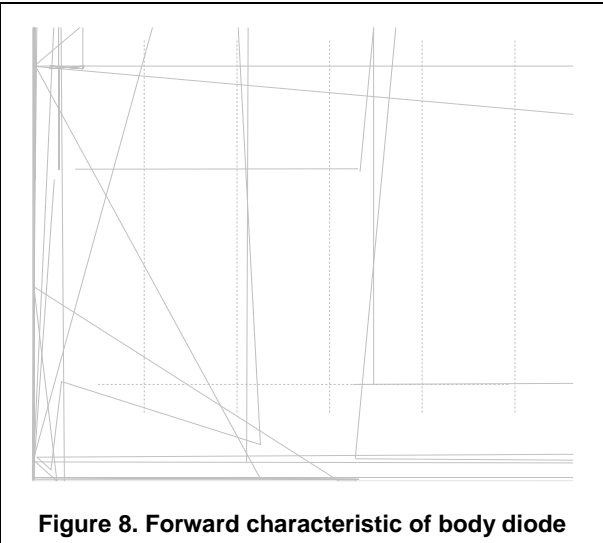


Figure 8. Forward characteristic of body diode

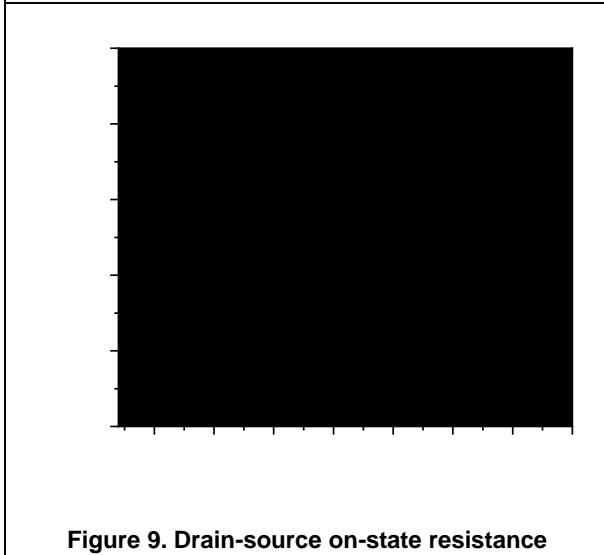


Figure 9. Drain-source on-state resistance

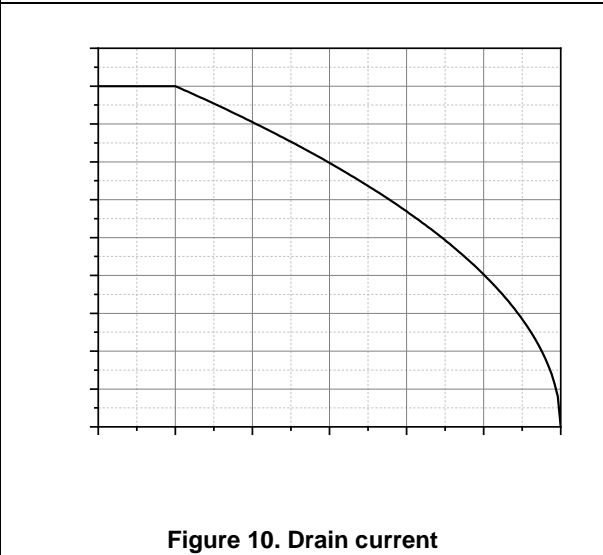


Figure 10. Drain current

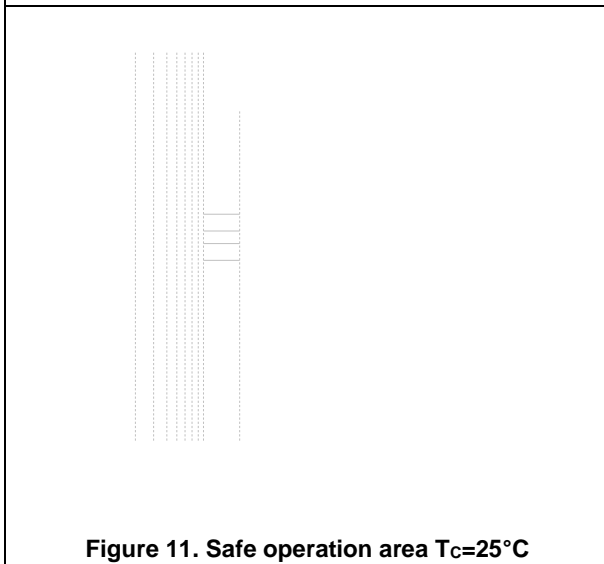


Figure 11. Safe operation area $T_c=25^\circ\text{C}$

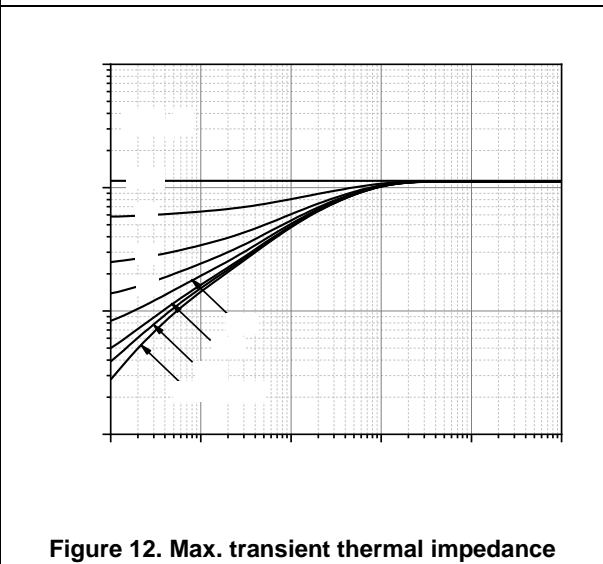


Figure 12. Max. transient thermal impedance

Test circuits and waveforms

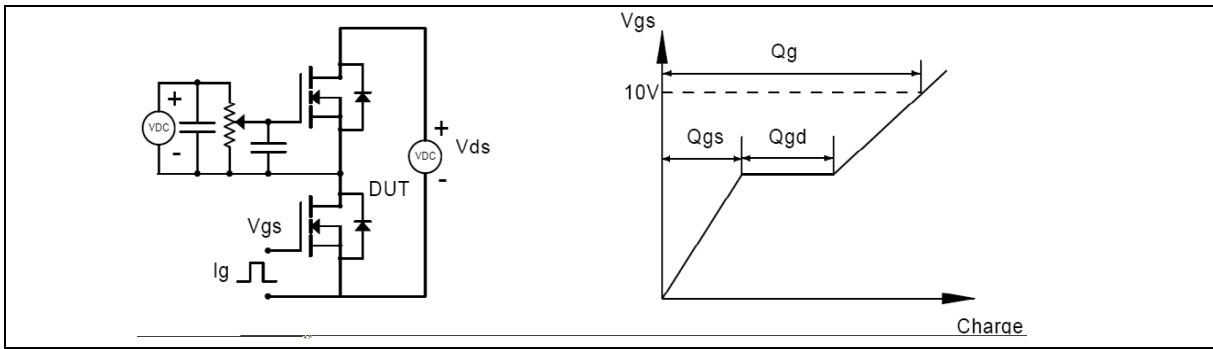


Figure 1. Gate charge test circuit & waveform

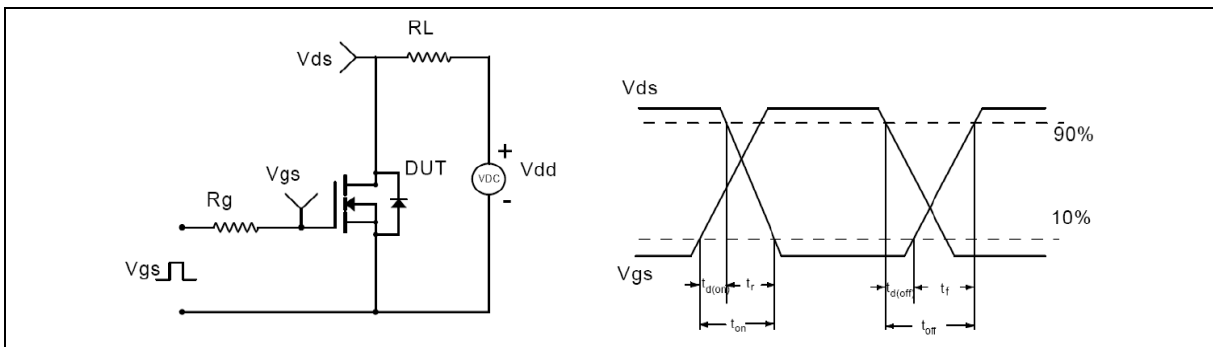


Figure 2. Switching time test circuit & waveforms

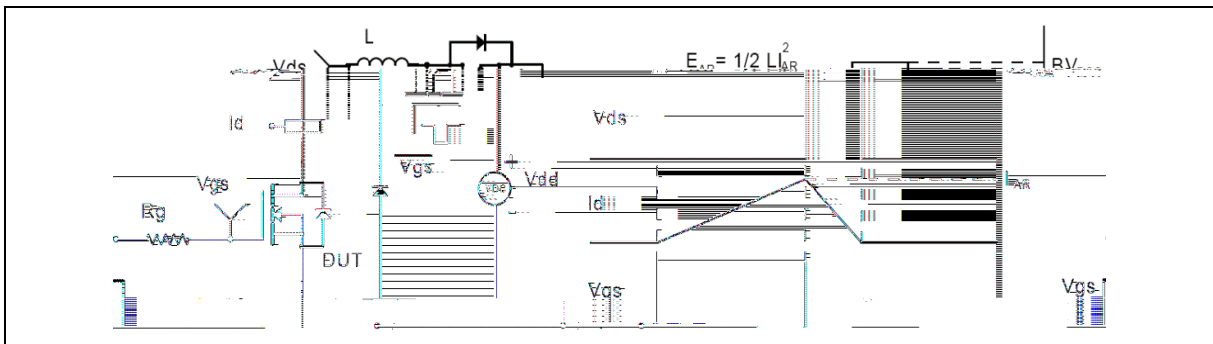


Figure 3. Unclamped inductive switching (UIS) test circuit & waveforms

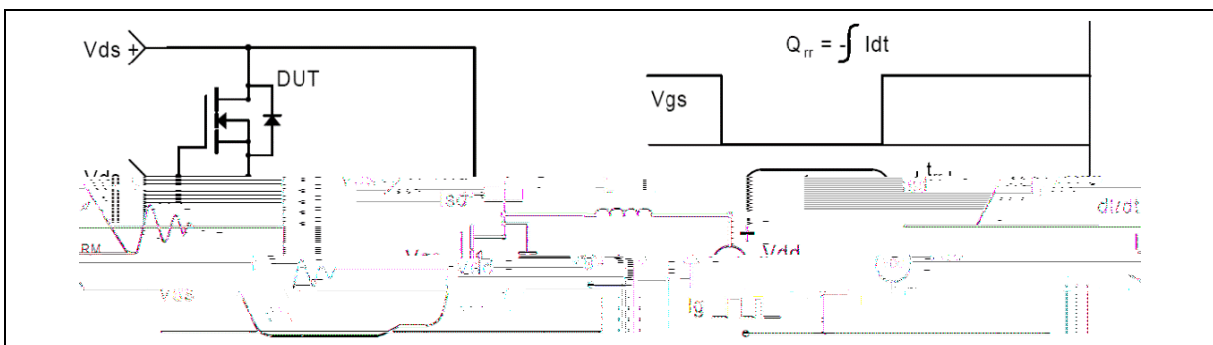
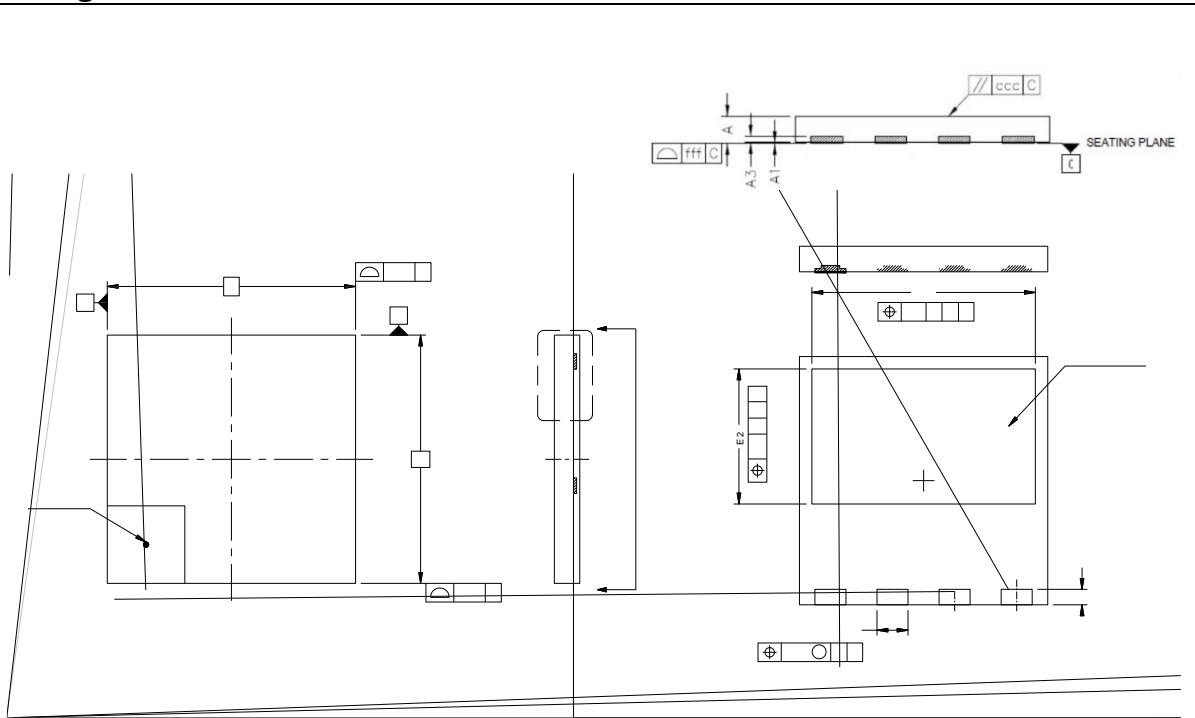


Figure 4. Diode reverse recovery test circuit & waveforms

Package Information



Symbol	mm	
	Min	Max
A	0.75	0.95
A1	0.00	0.05
A3	0.10	0.30
b	0.90	1.10
D	7.90	8.10
E	7.90	8.10
D2	7.10	7.30
E1	2.65	2.85
E2	4.25	4.45
e	2.0 BSC	
L	0.40	0.60
aaa	0.1	
ggg	0.05	
ccc	0.05	
fff	0.05	

Version 1: PDFN 8x8-S package outline dimension

Ordering Information

Package Type	Units/ Reel	Reels/ Inner Box	Units/ Inner Box	Inner Boxes/ Carton Box	Units/ Carton Box
PDFN 8x8-S	2500	1	2500	10	25000

Product Information

Product	Package	Pb Free	RoHS	Halogen Free
OSS65R240JF	PDFN 8x8	yes	yes	yes