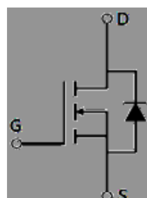
The GreenMOS® high voltage MOSFET utilizes charge balance technology to achieve outstanding low on-resistance and lower gate charge. It is engineered to minimize conduction loss, provide superior switching performance and robust avalanche capability.
The GreenMOS® Z series is integrated with fast recovery diode (FRD) to minimize reverse recovery time. It is suitable for resonant switching topologies to reach higher efficiency, higher reliability and smaller form factor.

- Low $R_{DS(ON)}$ & FOM
- Extremely low switching loss
- Excellent stability and uniformity
- Ultra-fast and robust body diode

- PC power
- Telecom power
- Server power
- EV Charger
- Motor driver

$V_{DS,\ min}$ @ $T_{j(max)}$	600	V
$I_{D,\ pulse}$	141	A
$R_{DS(ON),\ max}$ @ V_{GS}=10V	74	m
Q_g	67.7	nC

OSG55R074HSZF	TO247	OSG55R074HSZ



at T_j=25°C unless otherwise noted

Drain-source voltage	V_{DS}	550	V
Gate-source voltage	V_{GS}	±30	V
Continuous drain current[1)], T_C=25 °C	I_D	47	A
Continuous drain current[1)], T_C=100 °C		30	
Pulsed drain current[2)], T_C=25 °C	$I_{D, pulse}$	141	A
Continuous diode forward current[1)], T_C=25 °C	I_S	47	A
Diode pulsed current[2)], T_C=25 °C	$I_{S, pulse}$	141	A
Power dissipation[3)], T_C=25 °C	P_D	278	W
Single pulsed avalanche energy[5)]	E_{AS}	1000	mJ
MOSFET dv/dt ruggedness, V_{DS}=0…480 V	dv/dt	50	V/ns
Reverse diode dv/dt, V_{DS}=0…480 V, I_{SD} I_D	dv/dt	50	V/ns
Operation and storage temperature	T_{stg}, T_j	-55 to 150	°C

Thermal resistance, junction-case	R $_{JC}$	0.45	°C/W
Thermal resistance, junction-ambient[4)]	R $_{JA}$	62	°C/W

at T_j=25°C unless otherwise specified

Drain-source breakdown voltage	BV_{DSS}	550			V	V_{GS}=0 V, I_D=1 mA
		600				V_{GS}=0 V, I_D=1 mA, T_j=150 °C
Gate threshold voltage	$V_{GS(th)}$	3.5		4.5	V	V_{DS}=V_{GS}, I_D=1 mA
Drain-source on-state resistance	$R_{DS(ON)}$		0.060	0.074		V_{GS}=10 V, I_D=23.5 A
			0.16			V_{GS}=10 V, I_D=23.5 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}			10	μA	V_{DS}=600 V, V_{GS}=0 V
Gate resistance	R_G		8			f=1 MHz Open drain

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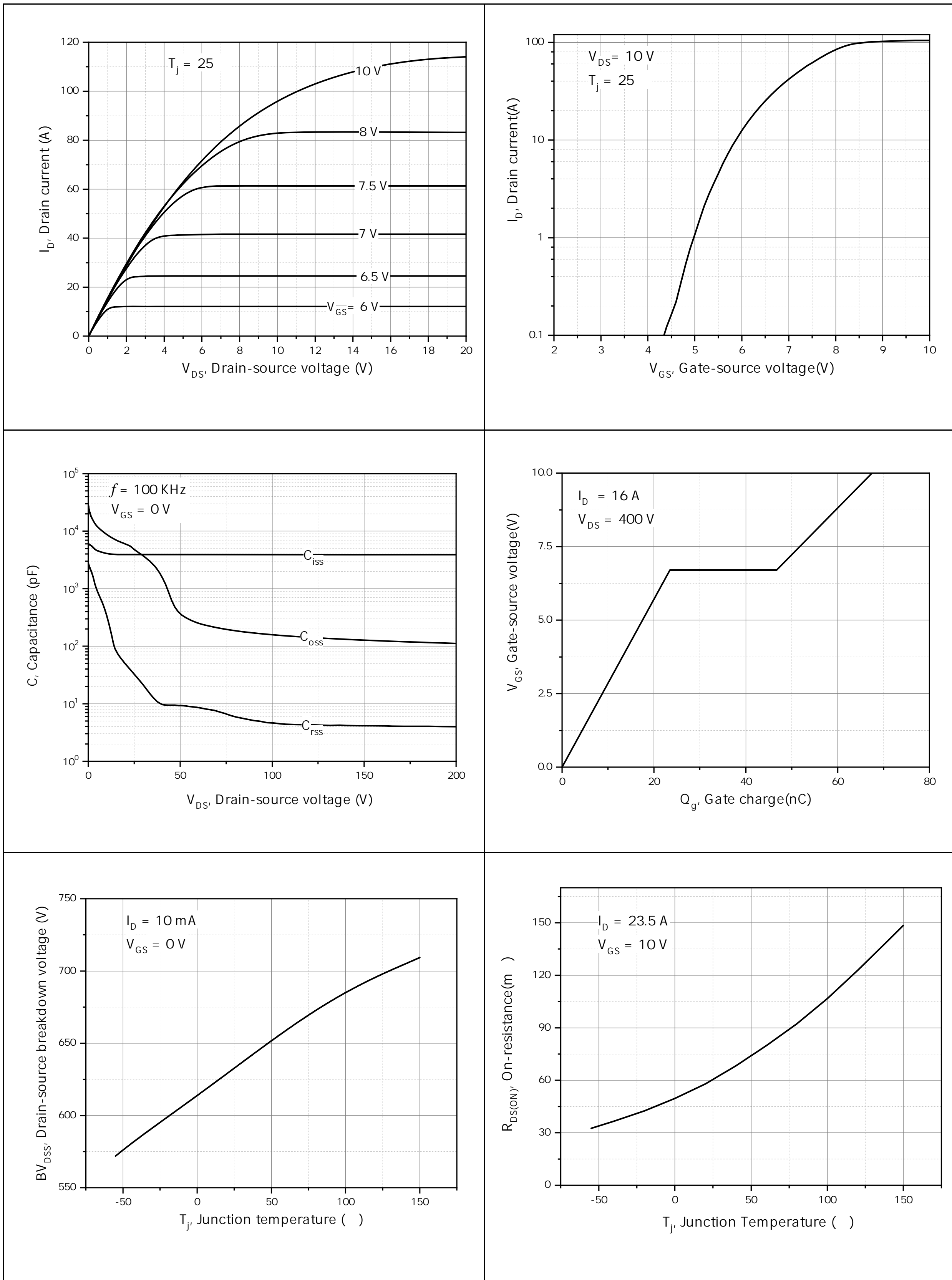
Input capacitance	C_{iss}		3915.5		pF	V_{GS}=0 V, V_{DS}=50 V, f=100 KHz
Output capacitance	C_{oss}		348.5		pF	
Reverse transfer capacitance	C_{rss}		9.3		pF	
Turn-on delay time	$t_{d(on)}$		48.9		ns	V_{GS}=10 V, V_{DS}=400 V, R_G=2 , I_D=16 A
Rise time	t_r		52.3		ns	
Turn-off delay time	$t_{d(off)}$		110.5		ns	
Fall time	t_f		6.1		ns	

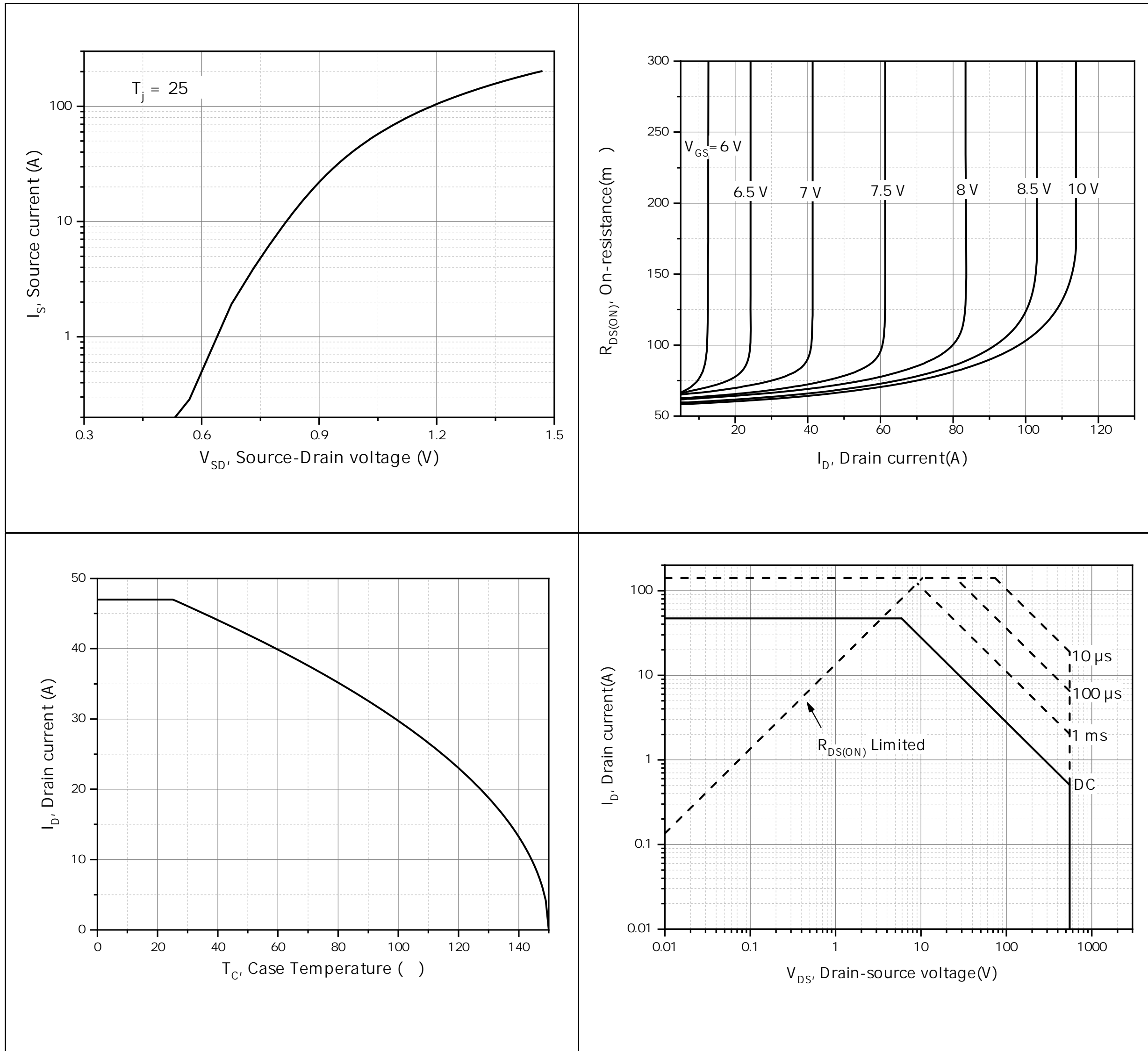
Total gate charge	Q_g		67.7		nC	V_{GS}=10 V, V_{DS}=400 V, I_D=16 A
Gate-source charge	Q_{gs}		23.5		nC	
Gate-drain charge	Q_{gd}		22.8		nC	
Gate plateau voltage	$V_{plateau}$		6.7		V	

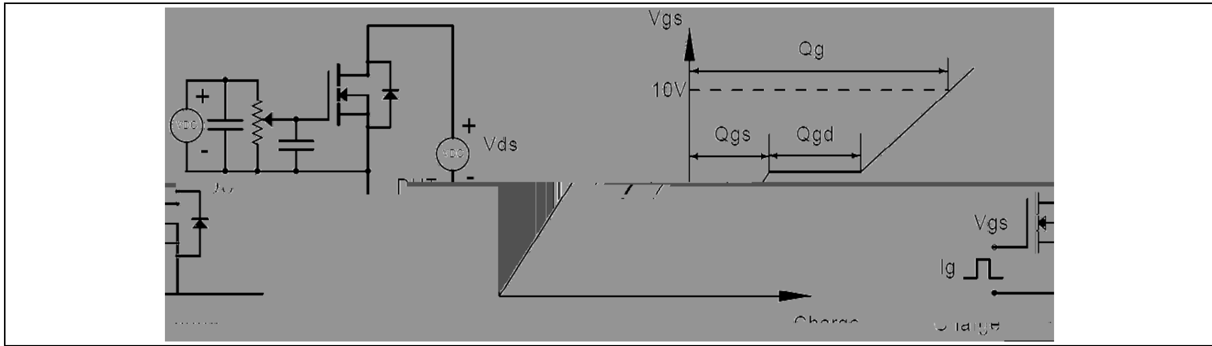
Diode forward voltage	V_{SD}			1.4	V	I_S=47 A, V_{GS}=0 V
Reverse recovery time	t_{rr}		176		ns	I_S=16 A, di/dt=100 A/μs
Reverse recovery charge	Q_{rr}		1.1		uC	
Peak reverse recovery current	I_{rrm}		11.2		A	

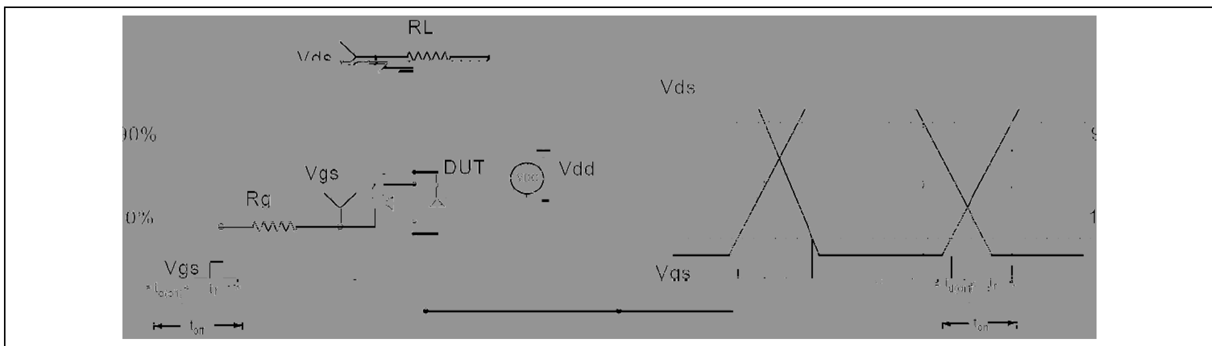
1) Calculated continuous current based on maximum allowable junction temperature.
2) Repetitive rating; pulse width limited by max. junction temperature.
3) Pd is based on max. junction temperature, using junction-case thermal resistance.
4) The value of R_{JA} is measured with the device mounted on 1 in 2 FR-4 board with 2oz. Copper, in a still air environment with T_a=25 °C.
5) V_{DD}=100 V, V_{GS}=10 V, L=60 mH, starting T_j=25 °C.

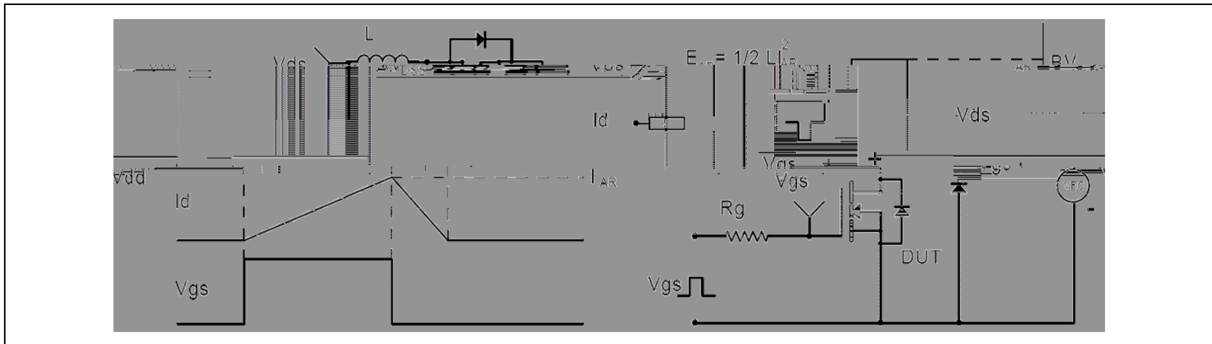


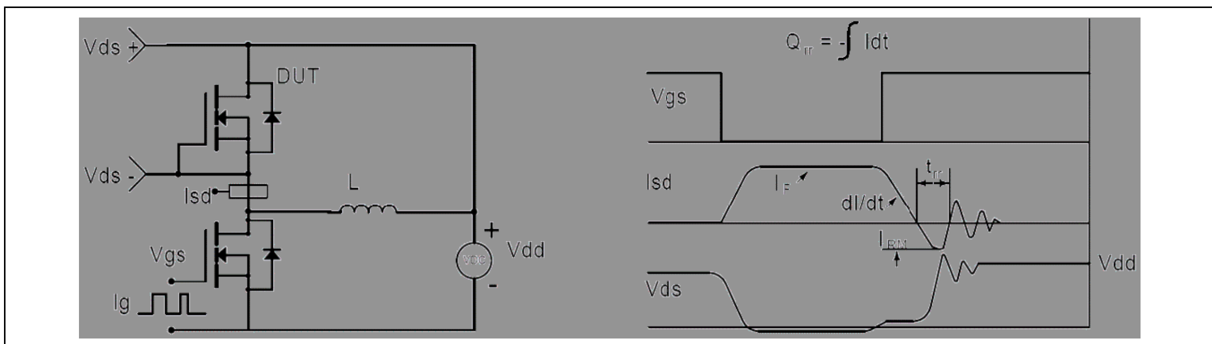
T_j = 25
10 V
8 V
7.5 V
7 V
6.5 V
V_{GS}= 6 V
I_D, Drain current (A)
V_{DS}, Drain-source voltage (V)
V_{DS}= 10 V
T_j = 25
I_D, Drain current(A)
V_{GS}, Gate-source voltage(V)
f = 100 KHz
V_{GS} = 0 V
C_{iss}
C_{oss}
C_{rss}
C, Capacitance (pF)
V_{DS}, Drain-source voltage (V)
I_D = 16 A
V_{DS} = 400 V
V_{GS}, Gate-source voltage(V)
Q_g, Gate charge(nC)
I_D = 10 mA
V_{GS} = 0 V
BV_{DSS}, Drain-source breakdown voltage (V)
T_j, Junction temperature ( )
I_D = 23.5 A
V_{GS} = 10 V
$R_{DS(ON)}$, On-resistance(m)
T_j, Junction Temperature ( )


Tj = 25
IS, Source current (A)
VSD, Source-Drain voltage (V)
RDS(ON), On-resistance(m)
ID, Drain current(A)
VGS= 6 V
6.5 V
7 V
7.5 V
8 V
8.5 V
10 V
ID, Drain current (A)
TC, Case Temperature ( )
ID, Drain current(A)
VDS, Drain-source voltage(V)
RDS(ON) Limited
10 μs
100 μs
1 ms
DC









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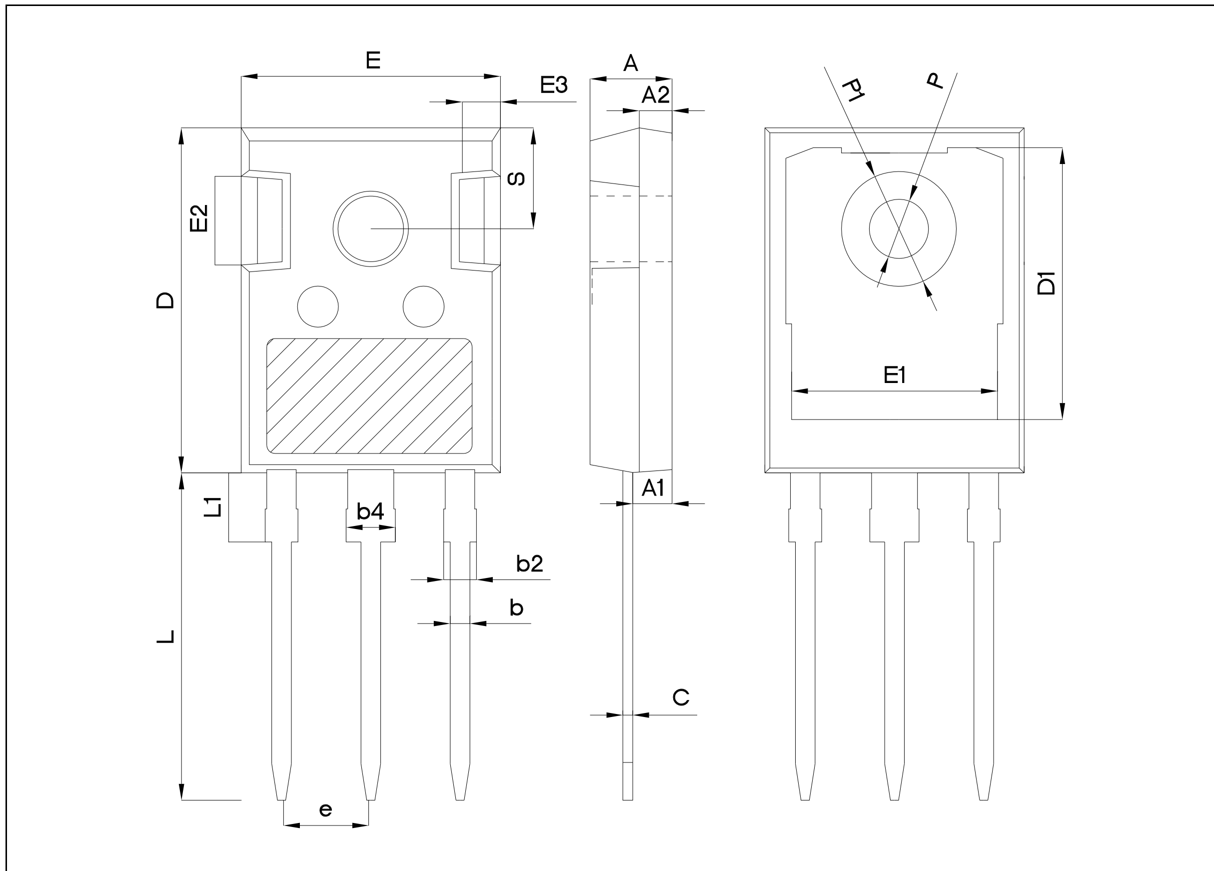
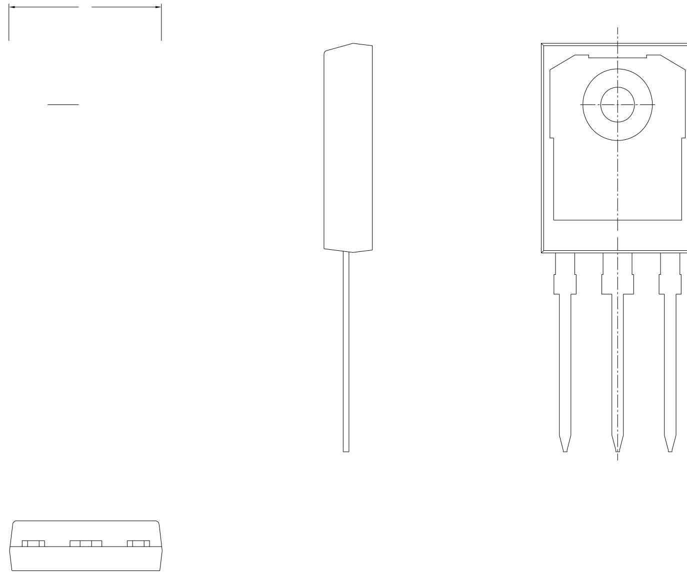


Symbol	mm		
	Min	Nom	Max
A	4.80	5.00	5.20
A1	2.21	2.41	2.59
A2	1.85	2.00	2.15
b	1.11	1.21	1.36
b2	1.91	2.01	2.21
b4	2.91	3.01	3.21
c	0.51	0.61	0.75
D	20.80	21.00	21.30
D1	16.25	16.55	16.85
E	15.50	15.80	16.10
E1	13.00	13.30	13.60
E2	4.80	5.00	5.20
E3	2.30	2.50	2.70
e	5.44BSC		
L	19.82	19.92	20.22
L1	-	-	4.30
P	3.40	3.60	3.80
P1	-	-	7.30
S	6.15BSC		

Version 1: TO247-C package outline dimension



Symbol	mm		
	Min	Nom	Max
A	4.90	5.00	5.20
A1	2.31	2.41	2.59
A2	1.90	2.00	2.15
a	0.00		
a'	0.00		
b	1.16	1.21	1.36
b1	1.15		
b2	1.96	2.01	2.21
b3	1.95		
b4	2.96	3.01	3.21
b5	2.96		
b6	-		
b7	-		
c	0.59	0.61	0.75
c1	0.58		
D	20.90	21.00	21.30
D1	16.25	16.55	16.85
D2	1.05		
E	15.70	15.80	16.10
E1	13.10	13.30	13.60
E2	4.40	5.00	5.20
E3	2.40	2.50	2.70
e	5.436BSC		
L	19.80	19.92	20.22
L1	-	-	4.30
M	0.35		
P	3.40	3.60	3.80
P1	7.00		
P2	2.40	-	7.30
Q	5.60		
S	6.05	-	7.30
T	0.80		
U	6.00	6.15BSC	

Version 2: TO247-J package outline dimension

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TO247-C	30	11	330	6	1980
TO247-J	30	20	600	5	3000

OSG55R074HSZF	TO247	yes	yes	yes

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