Single N-Channel, 60V, 340mA, MOSFET

Features

- ✧ High density cell design for Low $R_{DS(on)}$
- ✧ Voltage controlled small signal switch
- ✧ Rugged and reliable
- ✧ ESD protected Gate HBM 2.5kV

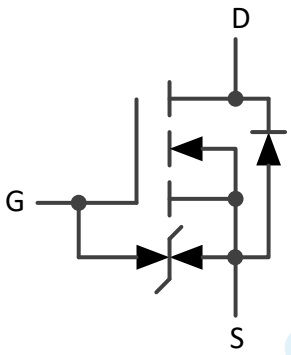
V_{DS} (V)	Max. $R_{DS(on)}$ (Ω)
60	3.0 @ V_{GS}=10V
	4.0@ V_{GS}=4.5V

Applications

- ✧ DC/DC Converter
- ✧ Load Switch for Portable Devices
- ✧ Battery Switch

Mechanical Data

- ✧ UL Flame Rating : UL94V-0
- ✧ Reel Size : 7 inch
- ✧ RoHS/WEEE Compliant



Circuit Diagram

DFN1006-3L

Absolute Maximum Rating at T_A = 25 °C, unless otherwise specified

Parameter	Symbol	Value	Units
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	340	mA
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

Electrical Characteristics at T_A = 25 °C, unless otherwise specified

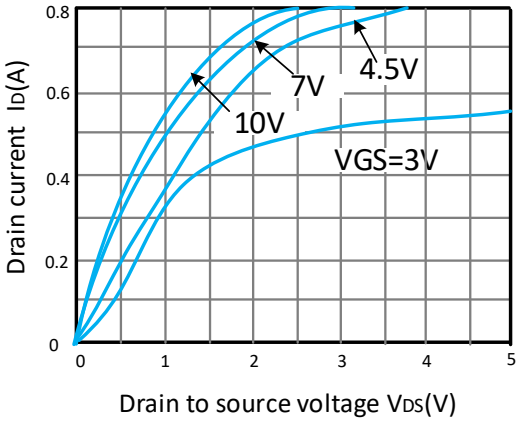
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	60			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =60V,V_{GS} = 0V			1	uA
Gate-body leakage current	I_{GSS1}	V_{GS} =±20V, V_{DS} = 0V			±10	μA
	I_{GSS2}	V_{GS} =±10V, V_{DS} = 0V			±200	nA
	I_{GSS2}	V_{GS} =±5V, V_{DS} = 0V			±100	nA
Gate threshold voltage*	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	1		2.5	V
Drain-source on-resistance*	$R_{DS(on)}$	V_{GS} =10V, I_D =500mA			3.0	Ω
		V_{GS} =4.5V, I_D =200mA			4.0	
Recovered charge	Q_r	V_{GS}=0V,I_S=300mA,V_R=25V, dI_s/d_t=-100A/μS		30		nC
Dynamic characteristics						
Input Capacitance	C_{iss}	V_{DS}=25V,V_{GS}=0V,f=1MHz		28		pF
Output Capacitance	C_{oss}			3.5		
Reverse Transfer Capacitance	C_{rss}			1.1		
Switching Characteristics						
Turn-on delay time	$t_{d(on)}$	V_{GS}=10 V, V_{DD}=30V, R_G=3.9Ω,R_L=150Ω		3.8		ns
Turn-off delay time	$t_{d(off)}$			3.5		
Reverse recovery Time	t_{rr}	V_{GS}=0V,I_S=300mA,V_R=25V, dI_s/d_t=-100A/μS		30		
Source-Drain Diode characteristics						
Diode Forward voltage	V_{SD}	V_{GS} =0V, I_S=300mA		0.97	1.5	V
GATE-SOURCE ZENER DIODE						
Gate-Source Breakdown Voltage	BV_{GSO}	I_{GS}=±1mA(Open Drain)	±21.5		±30	V

Notes:

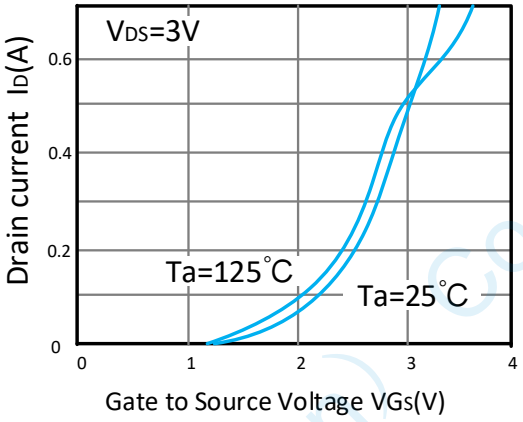
*Pulse Test: Pulse Width ≤300μs，Duty Cycle ≤2%.

Typical Characteristics at T_A = 25 °C, unless otherwise specified

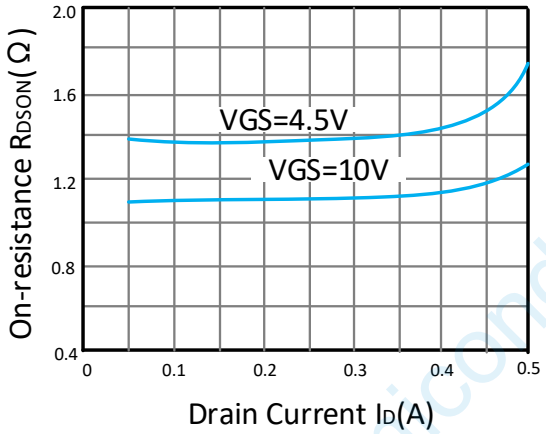
Output Characteristic



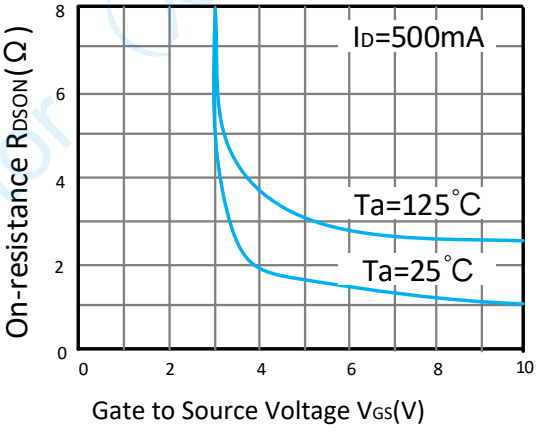
Transfer Characteristic



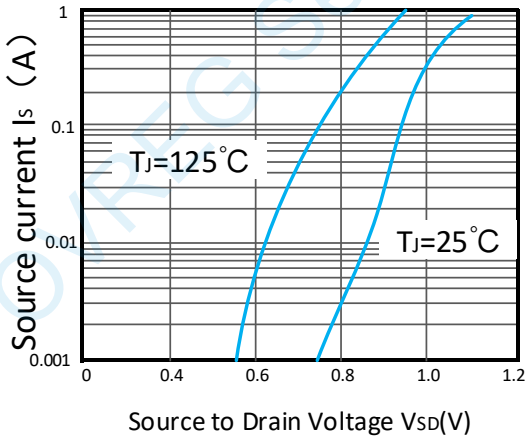
RDS(ON) VS. ID



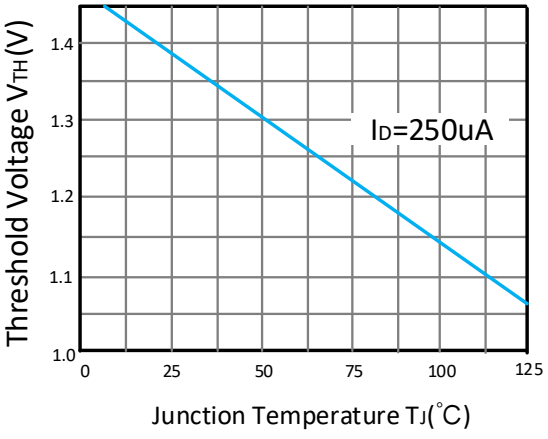
RDS(ON) VS. VGS



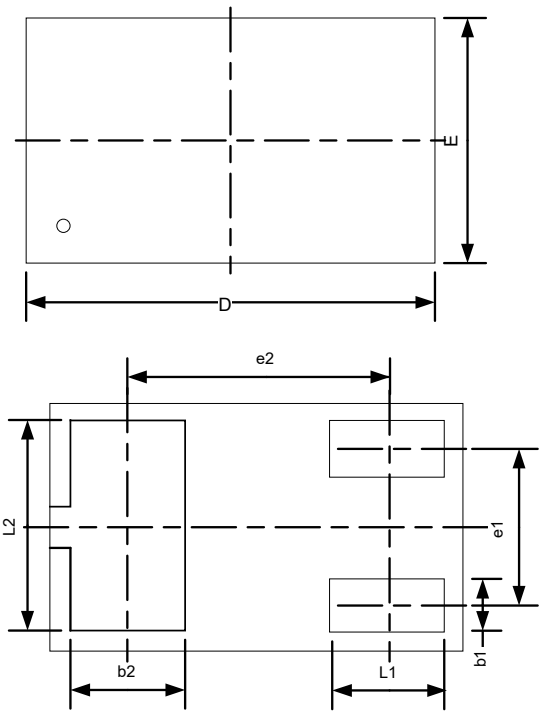
IS VS. VSD

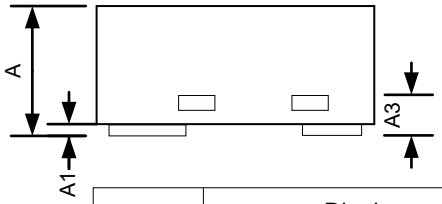


Threshold Voltage



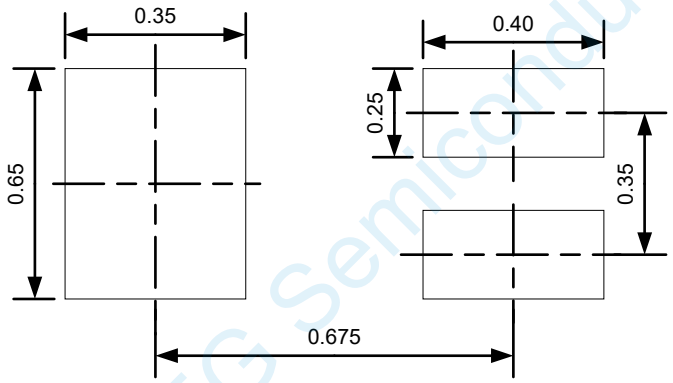
Package Information





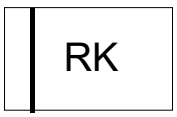
Symbol	Dim in mm		
	MIN	NOM	MAX
A	>0.4		0.55
A1	0.00		0.058
A3	0.127REF		
D	0.95	1.00	1.05
E	0.55	0.60	0.65
b1	0.10	0.15	0.20
b2	0.20	0.25	0.30
L1	0.20	0.30	0.40
L2	0.45	0.50	0.55
e1	0.35		
e2	0.675		

Recommend PCB Layout



Notes: This PCB Layout Is For Reference Purposes Only

Marking



Ordering Information

Part number	Material	Type	Reel size	MOQ	MOQ/internal box	MOQ/carton
OVM60N2RD1	GREEN	T/R	7 inch	10k/reel	10reel= 100k/box	4boxes=400k/carton