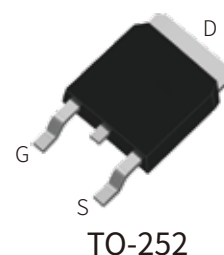


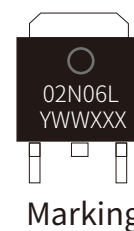
FEATURES

- | Surface-Mounted Package
- | Advanced Trench Cell design



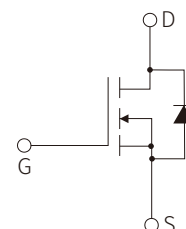
APPLICATION

- | LCD TV Appliances
- | LCDM Appliances
- | High Power Inverter System



APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003



Schematic Symbol

ABSOLUTE MAXIMUM RATINGS

Parameter		Symbol	Value	Unit
Drain-Source Voltage T _c =25°C		V _{DS}	60	V
Drain Current (Pulsed) T _c =25°C V _{GS} =10V		I _{DM} ***	150	A
Drain Current (DC)	T _c =25°C V _{GS} =10V	I _D ***	100	A
	T _c =100°C V _{GS} =10V		60	A
Gate-Source Voltage T _c =25°C		V _{GS}	±20	V
Drain power dissipation T _c =25°C		P _{tot}	50	W
Continuous-Source Current T _c =25°C		I _S	100	A
Junction Temperature		T _J	150	°C
Storage Temperature		T _{STG}	-55 to 150	°C
Thermal Resistance –Junction to Ambient		R _{θJA} **	37	°C/W
Thermal Resistance- Junction to Case		R _{θJC} **	1.2	°C/W

Notes:

- * Pulse width $\leq 300 \mu\text{s}$, duty cycle $\leq 2\%$
- ** Mounted on Large Heat Sink
- *** limited by bonding wire

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _{DS} =250μA	60			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _{DS} =250μA	1.0		3.0	V
Drain Leakage Current	I _{DSS}	V _{DS} =48V, V _{GS} =0V			1	μA
Gate Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V			±10	μA
On-State Resistance	R _{DS(on)} ^a	V _{GS} =10V, I _{DS} =20A		2.7	3.2	mΩ
		V _{GS} =4.5V, I _{DS} =10A		4.6	5.5	mΩ
Diode Characteristics						
Diode Forward Voltage	V _{SD} ^a	I _{SD} =20A, V _{GS} =0V			1.3	V
Reverse Recovery Time	t _{rr}	I _{DS} =20A, V _{GS} =0V dI _{SD} /dt=100A/μs		78.9		nS
Reverse Recovery Charge	Q _{rr}			139		nC
Dynamic Characteristics ^b						
Input capacitance	C _{iss}	V _{GS} =0V, V _{DS} =30V, Frequency = 1 MHz		4586		pF
Output capacitance	C _{oss}			1792		pF
Reverse transfer capacitance	C _{rss}			84		pF
Turn-on Delay Time	t _{d(on)}	V _{DS} =30V, V _{GEN} =10V R _G = 4.5Ω, R _L =1.5Ω, I _{DS} =20A		19		nS
Turn-on Rise Time	t _r			41		nS
Turn-Off Delay Time	t _{d(off)}			69.2		nS
Turn-Off Fall Time	t _f			61		nS
Gate Charge Characteristics ^b						
Total Gate Charge	Q _g	V _{DS} =30V, V _{GS} =10V, I _{DS} =20A		86.9		nC
Gate-Source Charge	Q _{gs}			18.8		nC
Gate-Drain Charge	Q _{gd}			22.1		nC

Notes:

a : Pulse test ; pulse width ≤ 300μs, duty cycle ≤ 2 %

b : Guaranteed by design, not subject to production testing

PARAMETER CHARACTERISTIC CURVE

Figure1: Power Capability

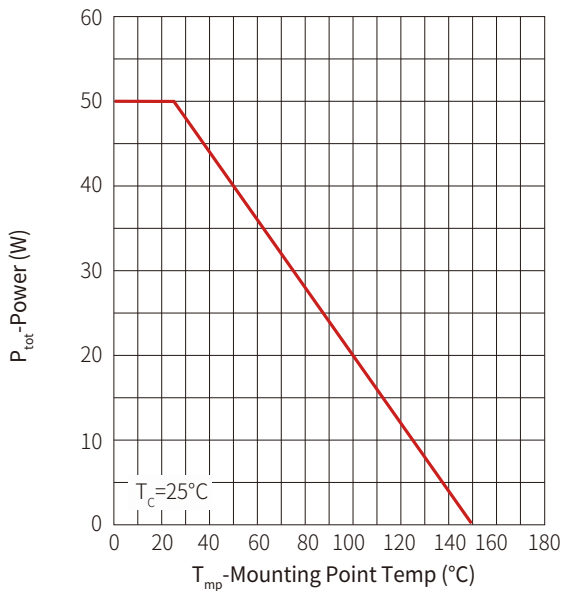


Figure2: Current Capability

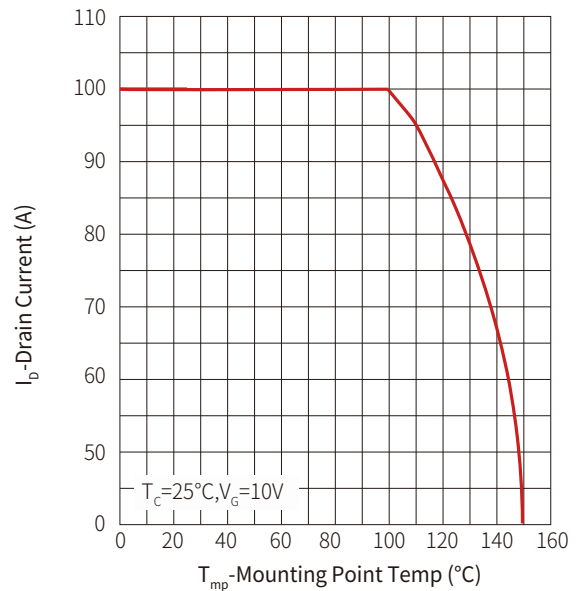


Figure3: Safe operating Area

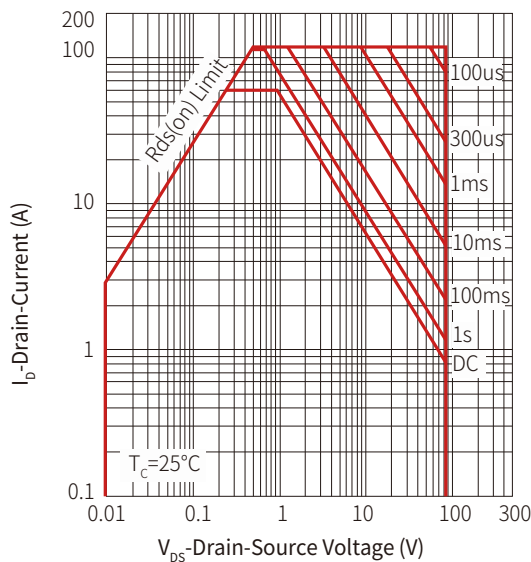
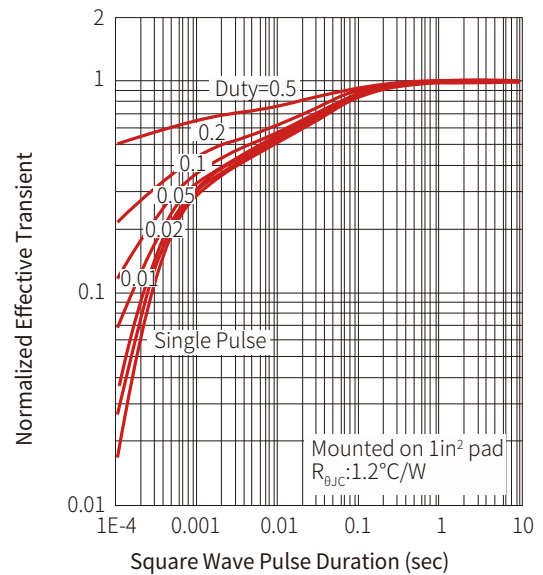


Figure 4: Transient Thermal Impedance



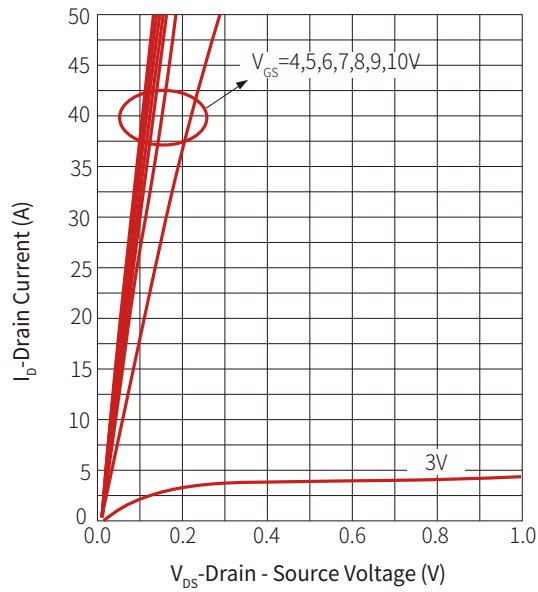
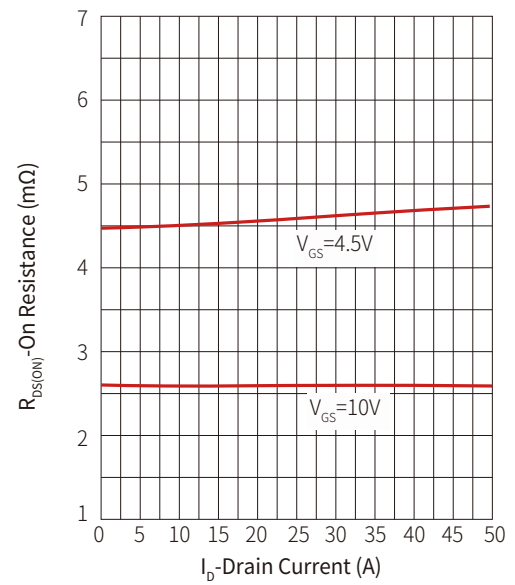
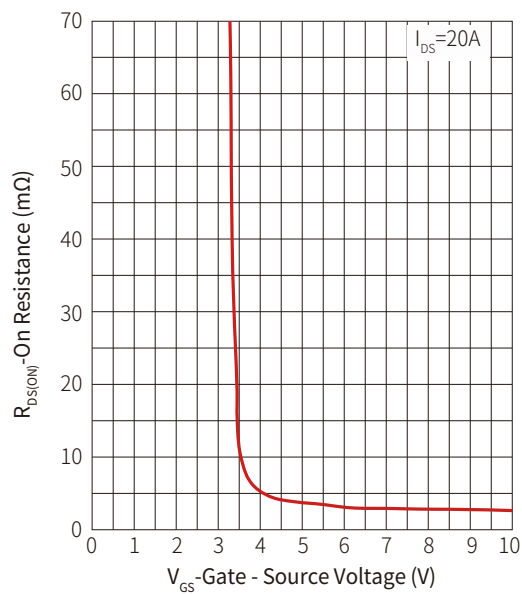
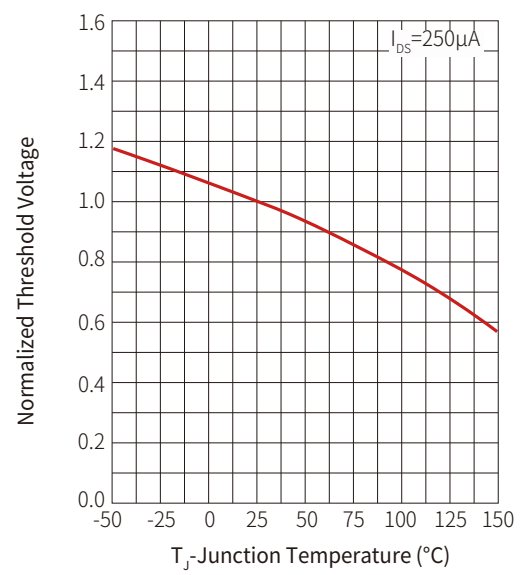
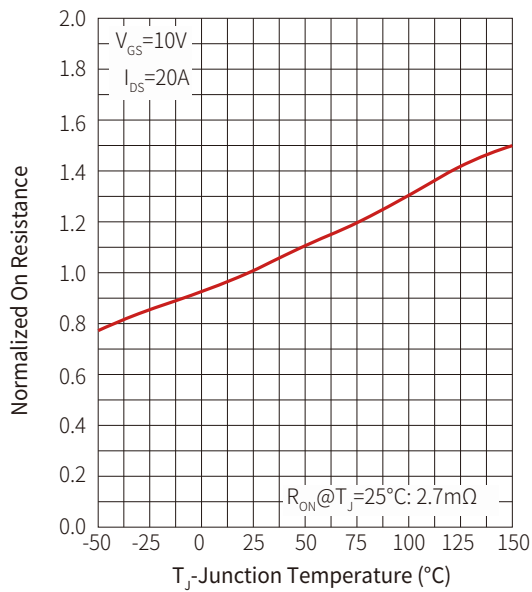
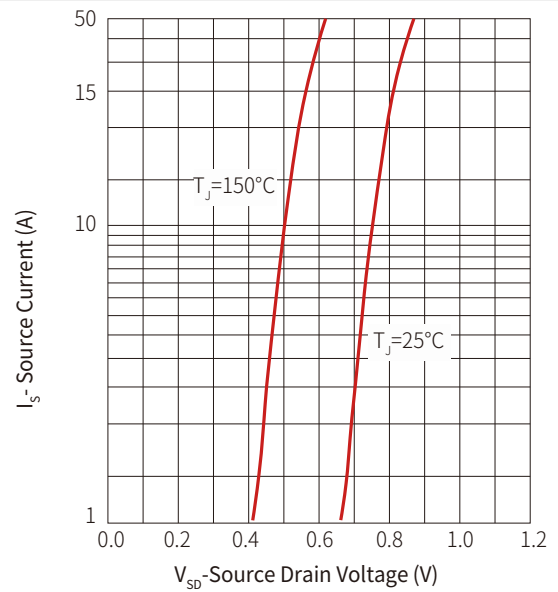
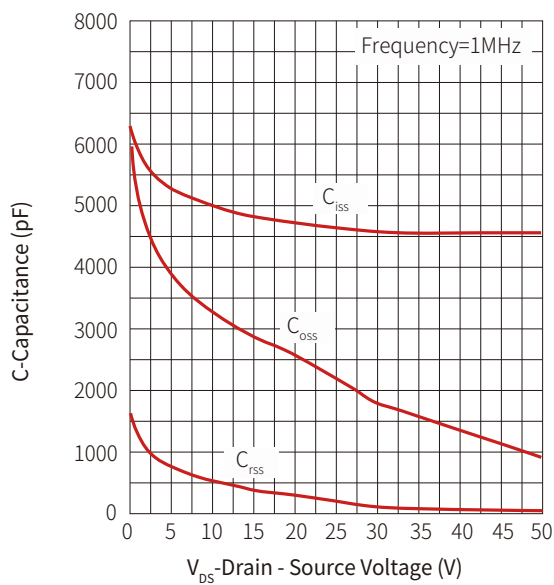
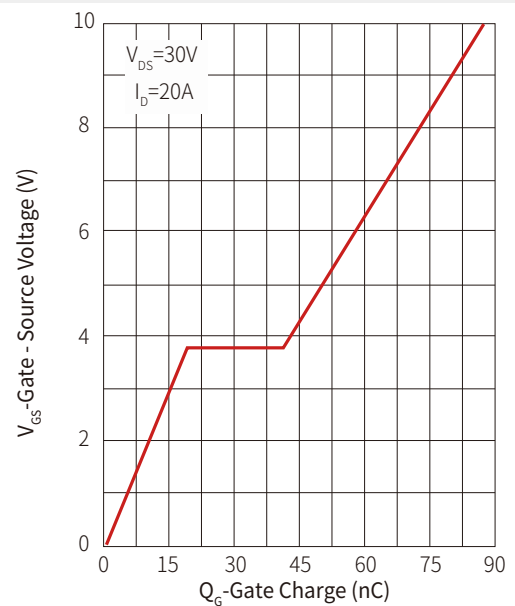
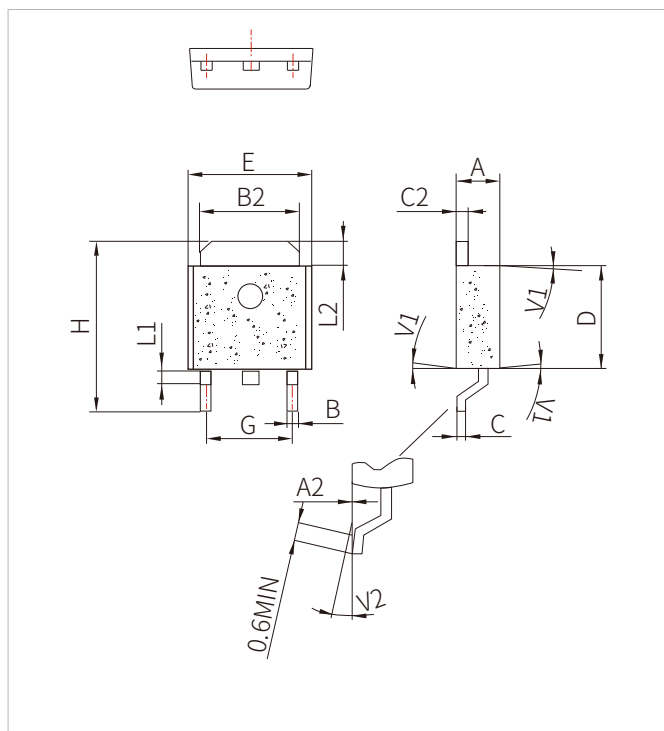
**Figure 5: Output Characteristics****Figure 6: On Resistance****Figure 7: Transfer Characteristics****Figure 8: Normalized Threshold Voltage**

Figure 9: Normalized On Resistance

Figure 10: Diode Forward Current

Figure 11: Capacitance

Figure 12: Gate Charge


TO-252 PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	2.10		2.50	0.083		0.098
A2	0.03		0.23	0.001		0.009
B	0.55		0.65	0.022		0.026
B2	5.10		5.40	0.200		0.213
C	0.45		0.62	0.018		0.024
C2	0.48		0.62	0.019		0.024
D	6.00		6.20	0.236		0.244
E	6.40		6.80	0.252		0.268
G	4.40		4.70	0.173	0.1	0.185
H	9.35		10.7	0.368		0.421
L1	1.30		1.70	0.051	0.143	0.067
L2	1.37		1.50	0.054		0.059
V1		4°			0.130	
V2	0°		8°	0°		8°

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SNM100N06D	TO-252	2500PCS	13"

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