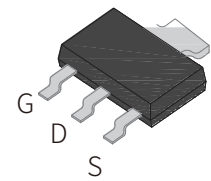


FEATURES

| N-Channel, Low $R_{DS(on)}$ @ $V_{GS}=10V$

| 10V Logic Level Control

| 100% UIS Tested



SOT-89

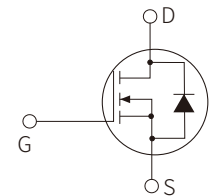
APPLICATION

| Primary Side Switch

| Load Switch

| Optimized for Power Management Applications for
Portable Products, such as H-bridge, InvertersCar
Charger and Others

| Car Charger and Others



Schematic Symbol

APPROVALS

RoHS | Compliance with 2011/65/EU

HF | Compliance with IEC61249-2-21:2003

ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}C$)

Parameter		Symbol	Value	Unit
Drain-Source Breakdown Voltage		$V_{(BR)DSS}$	100	V
Pulse Drain Current Tested $T_c=25^{\circ}C$ *		I_{DM}	35	A
Drain Current (DC)	$T_c=25^{\circ}C, V_{GS}=10V$	I_D	15	A
	$T_c=70^{\circ}C, V_{GS}=10V$		12	A
Gate-Source Voltage $T_c=25^{\circ}C$		V_{GS}	± 20	V
Maximum Power Dissipation $T_c=25^{\circ}C$		P_D	50	W
Diode continuous forward current $T_c=25^{\circ}C$		I_S	15	A
Junction Temperature		T_J	-55 ~ +175	$^{\circ}C$
Storage Temperature		T_{STG}	-55 ~ +150	$^{\circ}C$
Avalanche energy, single pulsed **		E_{AS}	21.6	mJ
Thermal Resistance- Junction to Case		$R_{\theta JC}$	3	$^{\circ}C/W$

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	100			V
Gate-Body Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =100V, V _{GS} =0V,(T _C =25°C)			1	μA
		V _{DS} =80V, V _{GS} =0V,(T _C =125°C)			100	μA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	1.0	1.6	2.1	V
Static Drain-Source On-Resistance ⁽¹⁾	R _{DS(on)}	V _{GS} =10V, I _D =15A		85	98	mΩ
		V _{GS} =5V, I _D =12A		100	115	mΩ
Dynamic Characteristics						
Input capacitance	C _{iss}	V _{DS} =50V,V _{GS} =0V,f=1MHz		605		pF
Output capacitance	C _{oss}			33		pF
Reverse transfer capacitance	C _{rss}			27		pF
Gate Resistance	R _g	f=1MHz		6.5		Ω
Total gate charge	Q _g	V _{DS} =50V,V _{GS} =10V,I _D =5A		16.1		nC
Gate-source charge	Q _{gs}			1.6		nC
Gate-drain charge	Q _{gd}			4.8		nC
Switching Characteristics						
Turn-on delay time	t _{d(on)}	V _{DD} =25V, I _D =8A R _G =1Ω,V _{GS} =10V		14.2		ns
Rise Time	t _r			34		ns
Turn-Off Delay Time	t _{d(off)}			40.4		ns
Fall yime	t _f			6		ns
Source Drain Diode Characteristics @ TJ = 25°C (unless otherwise stated)						
Reverse Recovery Time	t _{rr}	V _{GS} =0V,I _{SD} =5A di/dt=100A/μs		35		nS
Reverse Recovery Charge	Q _{rr}			121		nC
Forward on voltage	V _{SD}	V _{GS} =0V,I _{SD} =12A		0.93	1.2	V

CHARACTERISTIC CURVES

Fig1. Typical Output Characteristics

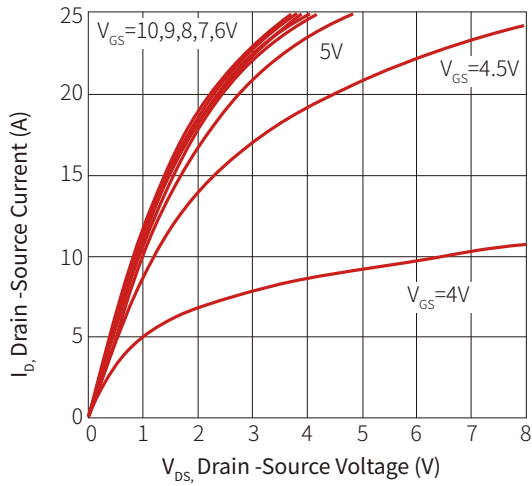


Fig2. $V_{GS(TH)}$ Voltage Vs. Temperature

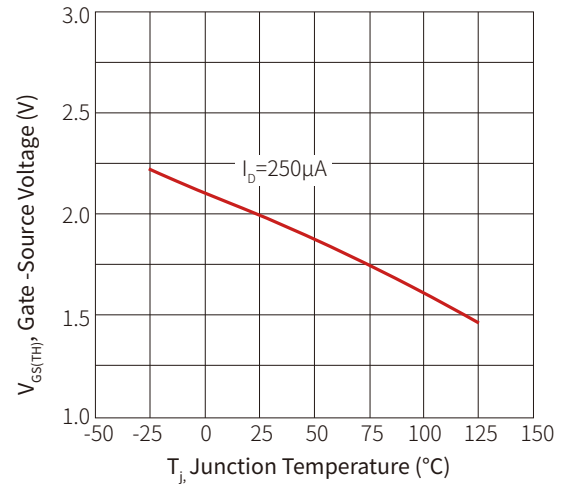


Fig3. Typical Transfer Characteristics

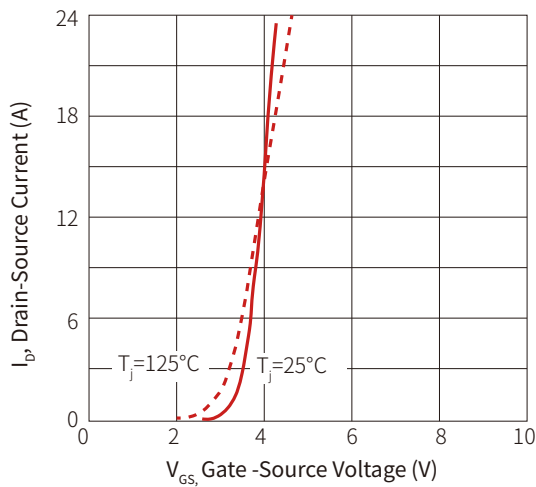


Fig4. On-Resistance vs. Drain Current and Gate Voltage

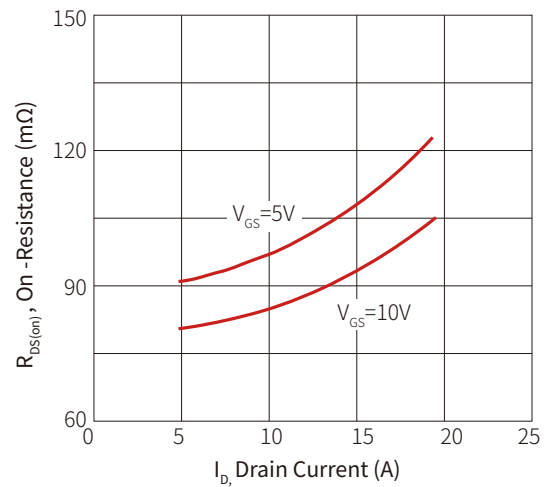
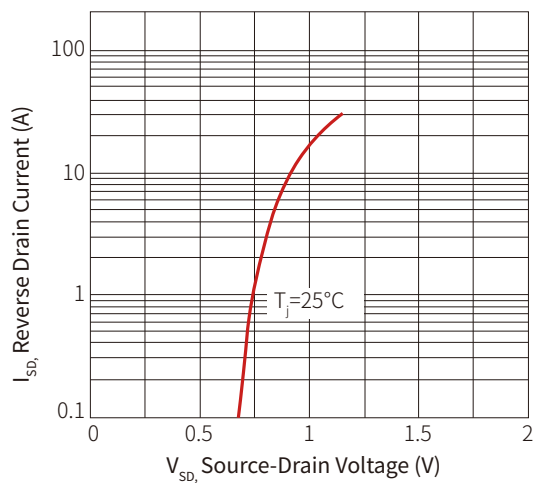
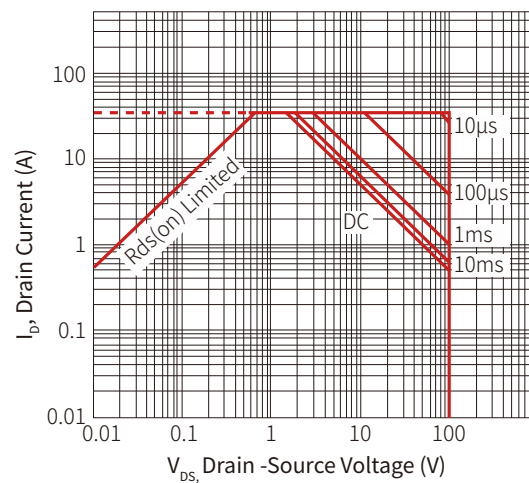
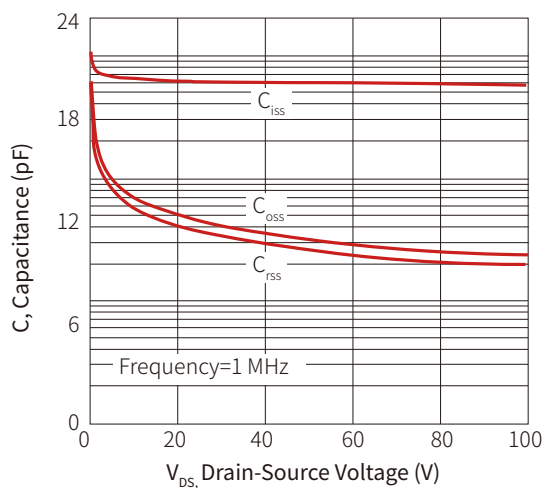
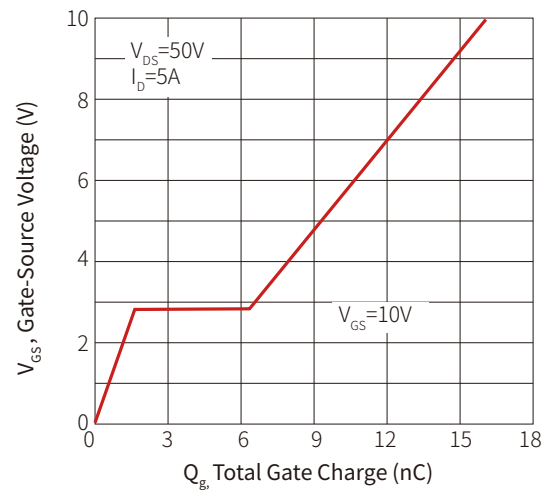
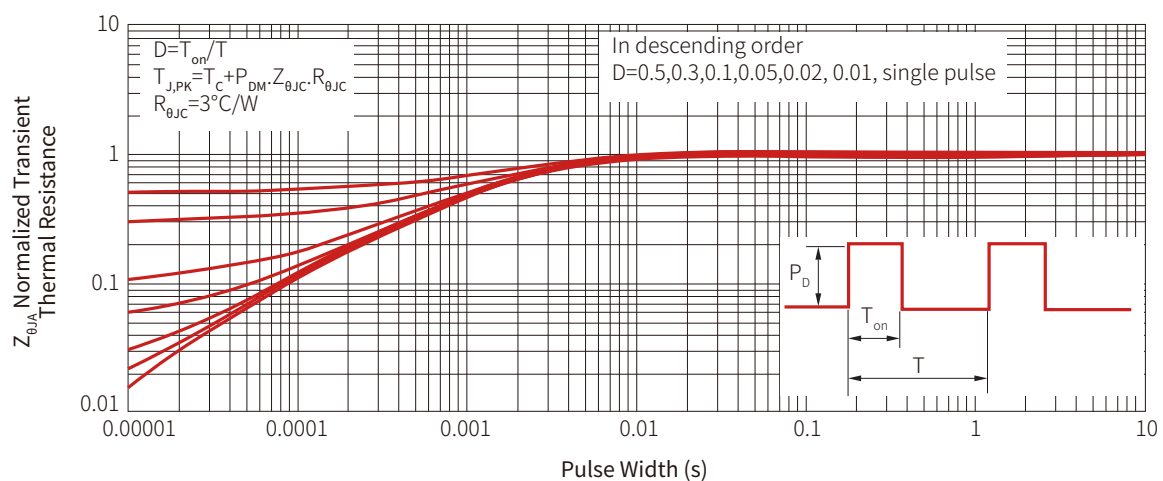
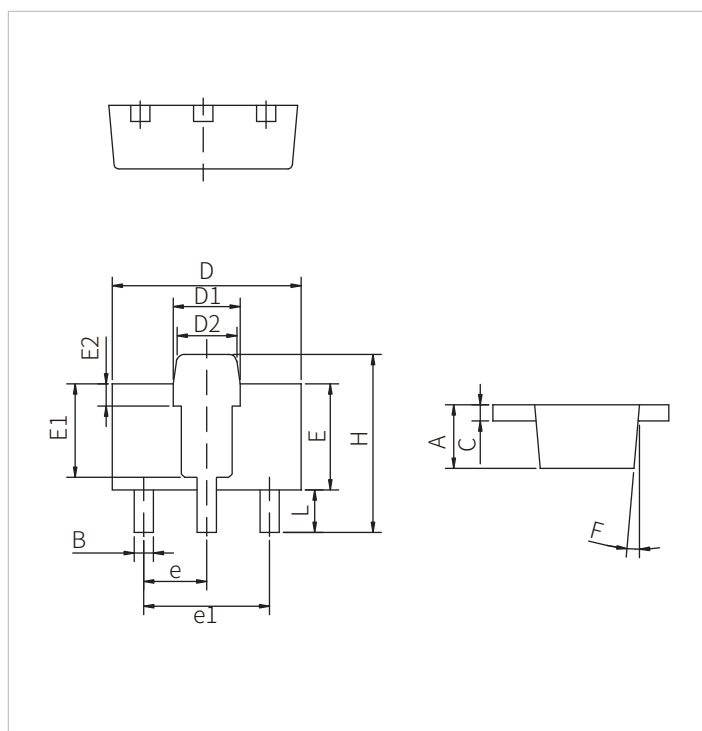


Fig5. Typical Source-Drain Diode Forward Voltage

Fig6. Maximum Safe Operating Area

Fig7. Typical Capacitance Vs. Drain-Source Voltage

Fig8. Typical Gate Charge Vs. Gate-Source Voltage

Fig9. Normalized Maximum Transient Thermal Impedance


SOT-89 PACKAGE DIMENSIONS



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.40		1.60	0.055		0.063
B	0.40		0.52	0.016		0.020
C	0.35		0.41	0.014		0.016
D	4.40		4.60	0.173		0.181
D1	1.50		1.70	0.059		0.067
D2	1.30		1.50	0.051		0.059
E	2.40		2.60	0.094		0.102
E1		2.20			0.087	
E2		0.52			0.020	
e		1.50			0.059	
e1		3.00			0.118	
F		5.00			5.000	
H	4.05		4.25	0.159		0.167
L	0.89		1.20	0.035		0.047

ORDERING INFORMATION

Part Number	Component Package	Marking	QTY/Reel	Reel Size
SNM15N10C	SOT-89	15N10	1000PCS	7"

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By QR Code

Website



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