



ER4892S

100V Dual N-Channel MOSFET

Features

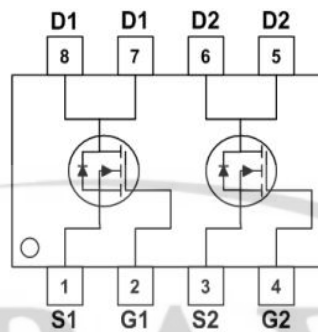
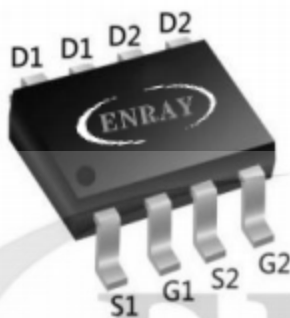
The ER4892S is the high cell density trench N-ch MOSFETs, which provide excellent RDSON and gate charge for most of the synchronous buck converter applications.

The DS4892S meet the RoHS and Green Product

Product Summary

V_{DS}	100V
I_D	10.0A
$R_{DS(ON)}$ (at $V_{GS}=10V$)	<100m Ω
$R_{DS(ON)}$ (at $V_{GS}=4.5V$)	< 110m Ω

Dual SOP-8



Maximum Ratings($T_a=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current	$I_{D@T_A=25^{\circ}C}$	10	A
Continuous Drain Current	$I_{D@T_A=100^{\circ}C}$	3.5	
Pulsed Drain Current ²	I_{DM}	16	
Single Pulse Avalanche Energy	EAS	3.2	mJ
Total Power Dissipation	$P_{D@T_A=25^{\circ}C}$	3.1	W
Storage Temperature Range	TSTG	-55 to 150	$^{\circ}C$
Operating Junction Temperature Range	T_J	-55 to 150	

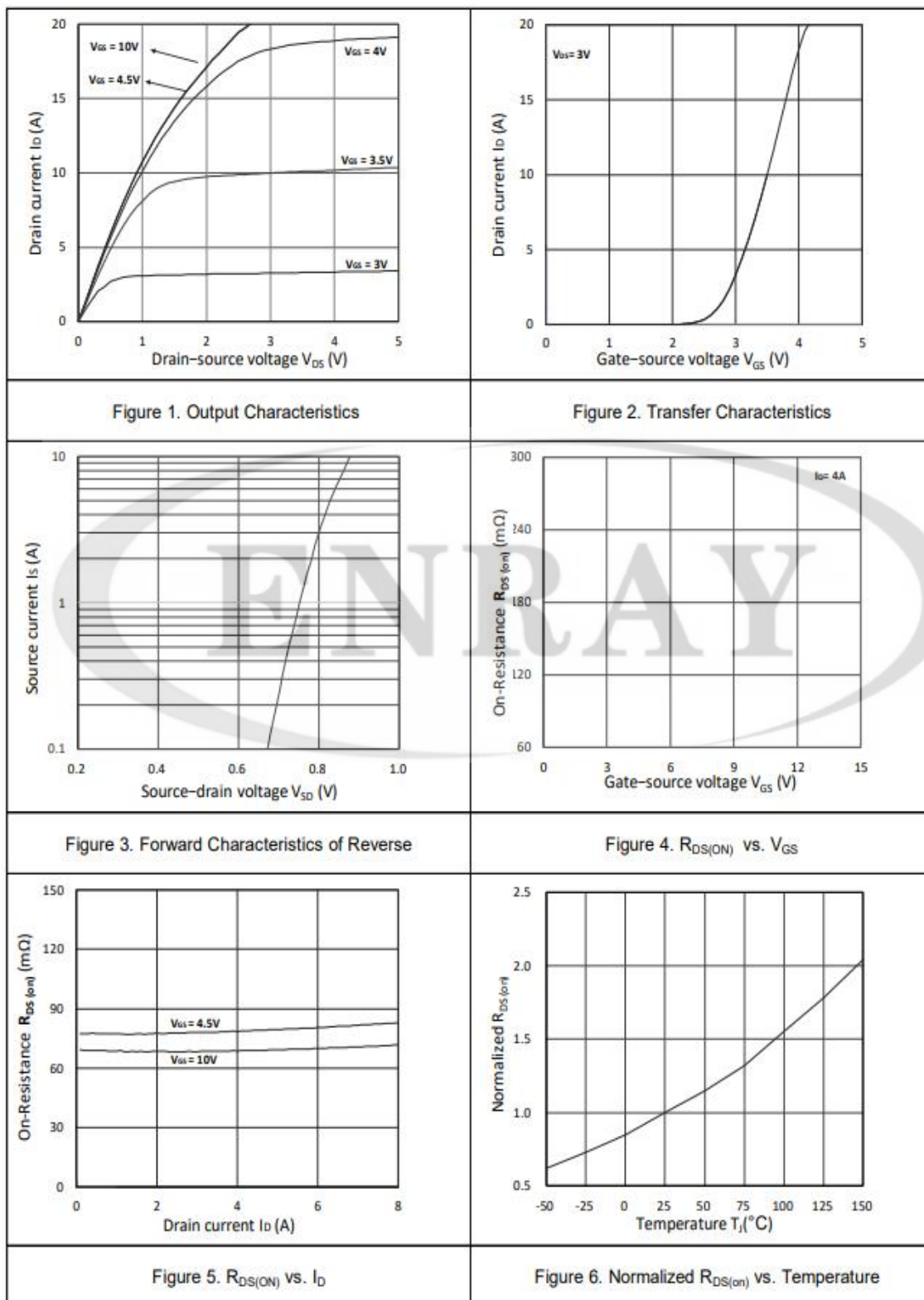
Thermal Data

Parameter	Symbol	Max.	Unit
Thermal Resistance Junction-ambient	$R_{\theta JA}$	40.3	$^{\circ}C/W$

Electrical Characteristics(TJ=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static Parameters ③						
Drain-Source Breakdown Voltage	BVDSS	VGS = 0V, ID = 250μA	100			V
Gate Threshold Voltage	VGS(th)	VDS =VGS, ID = 250μA	1	2	3	V
Gate-Body leakage Current	IGSS	VDS =0V, VGS = ±20V			±100	nA
Zero Gate Voltage Drain Current	IDSS	VDS = 30V, VGS =0V			1	μA
Static Drain-Source On-Resistance	RDS(on)	VGS = 10V, ID = 4A		68	100	mΩ
		VGS = 4.5V, ID = 2A		78	110	mΩ
Dynamic Parameters ④						
Input Capacitance	Ciss	VDS = 50V,VGS =0V, f=1MHz		1233		pF
Output Capacitance	Coss			32		pF
Reverse Transfer Capacitance	Crss			1.4		pF
Total Gate Charge	Qg	VGS = 10V, VDS = 50V, ID=4A		12		nC
Gate Source Charge	Qgs			2.9		nC
Gate Drain Charge	Qgd			1.4		nC
Switching Parameters ④						
Turn-On DelayTime	td(on)	VGS =10V, VDD =50V, RG = 3Ω, ID= 4A		3.9		ns
Turn-On Rise Time	tr			26		ns
Turn-Off DelayTime	td(off)			16.2		ns
Turn-Off Fall Time	tf			8.9		ns
Drain-Source Diode Characteristics and Maximum Ratings						
Continuous Source Current		Is			10	A
Drain to Source Diode Forward Voltage	VSD	VGS=0V, IS=1A			1.2	V
Body Diode Reverse Recovery Time	trr	IF=4A,dI/dt=100A/μs		40		ns
Body Diode Reverse Recovery Charge	Qrr			43		nC
Note :						
1. Repetitive Rating : Pulse width limited by maximum junction temperature.						
2. Surface Mounted on FR4 Board, t < 5 sec.						
3. Pulse Test : Pulse Width≤300μs, Duty Cycle ≤ 2%.						
4. Guaranteed by design. not subject to production testing.						

Typical Electrical and Thermal Characteristics



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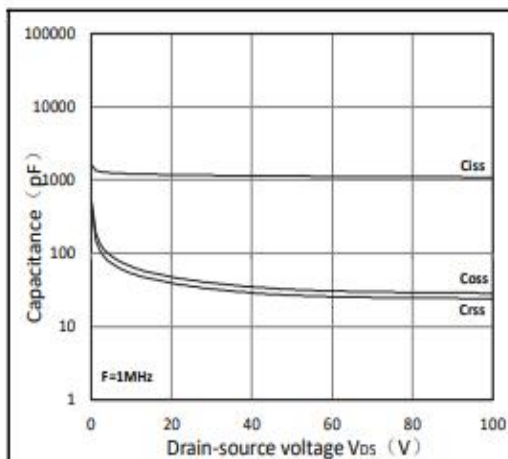


Figure 7. Capacitance Characteristics

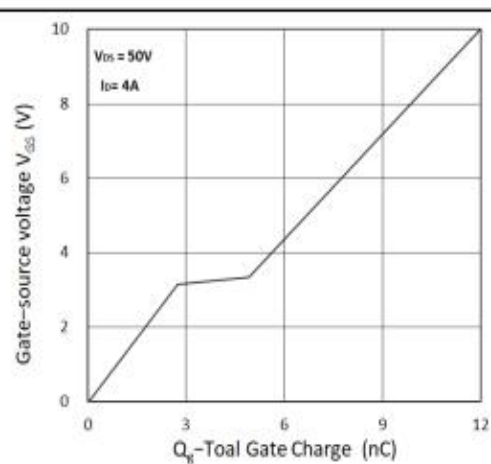


Figure 8. Gate Charge Characteristics

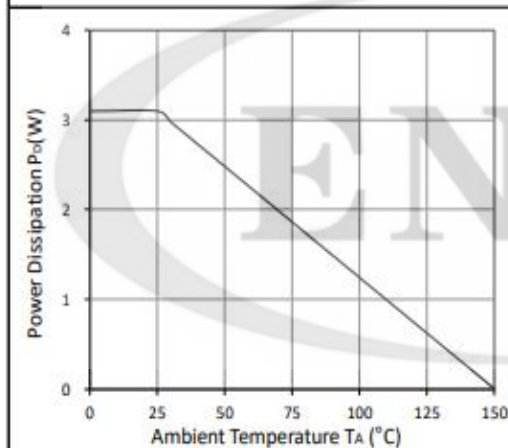


Figure 9. Power Dissipation

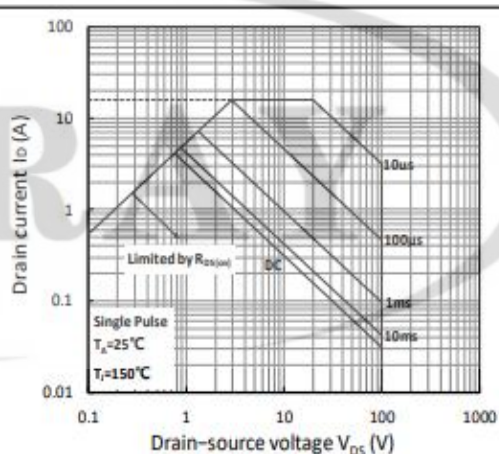


Figure 10. Safe Operating Area

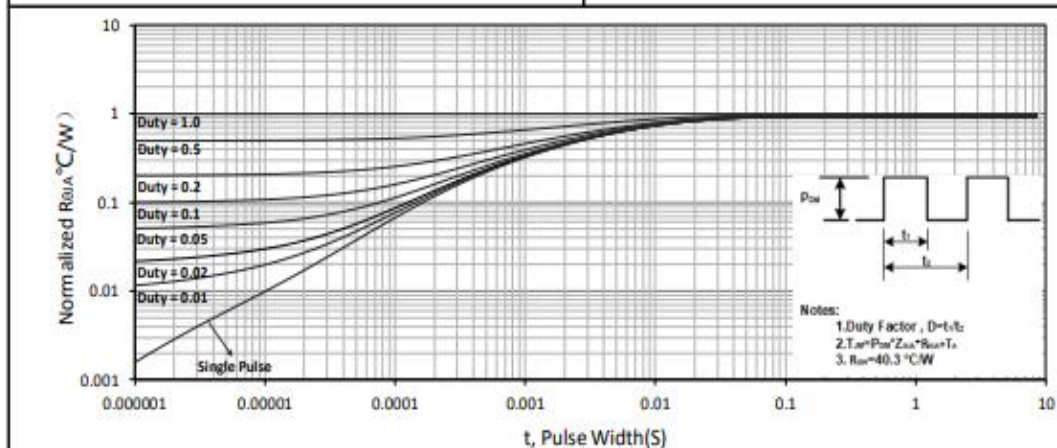
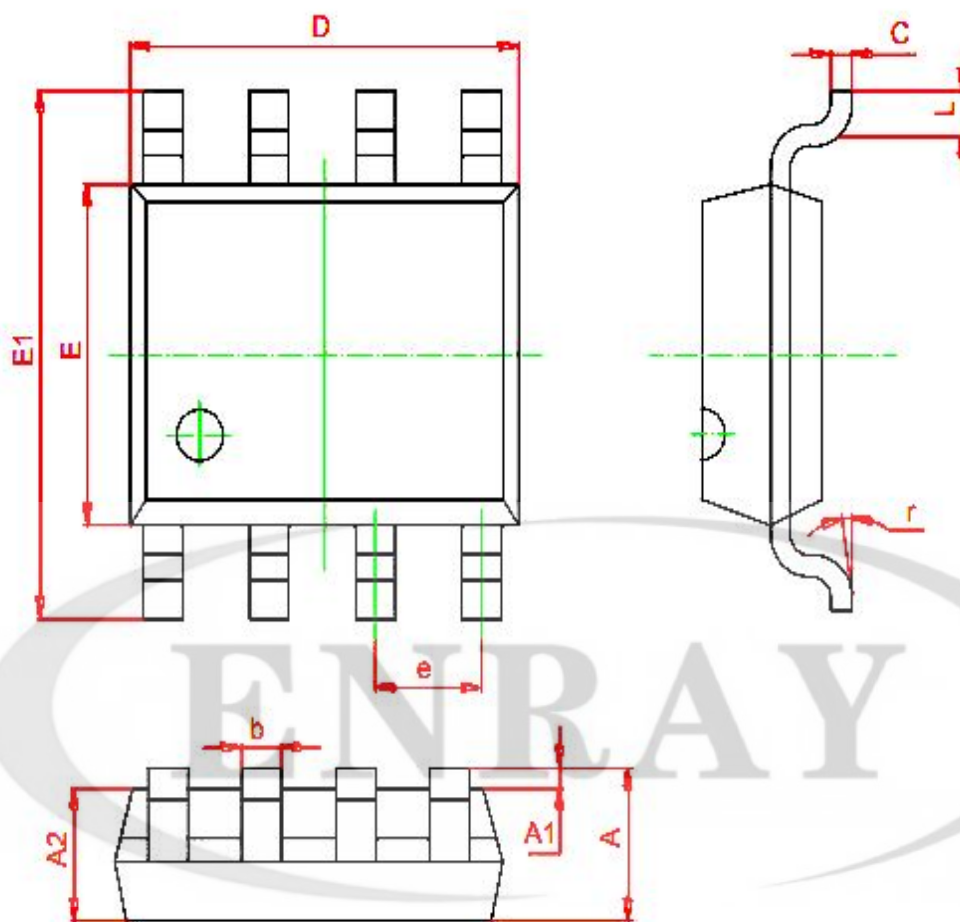


Figure 11. Normalized Maximum Transient Thermal Impedance

SOP-8 Package Outline Dimesions


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
C	0.170	0.250	0.006	0.010
D	4.700	5.100	0.185	0.200
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
e	1.270(BSC)		0.050 (BSC)	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°