

SE4826
Dual N-Channel Enhancement-Mode MOSFET

Revision:A

General Description

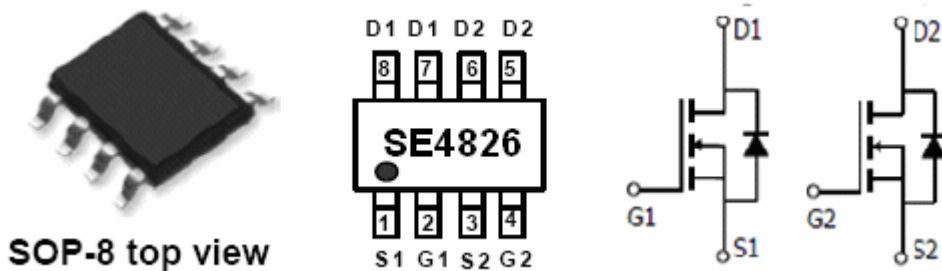
The MOSFETs from SINO-IC provide the best combination of fast switching, low on-resistance and cost-effectiveness.

Features

- V_{DS} (V) = 60V
- I_D = 6.3A (V_{GS} = 10V)
- $R_{DS(ON)}$ < 32m Ω (V_{GS} = 10V)
- $R_{DS(ON)}$ < 37m Ω (V_{GS} = 4.5V)

Pin configurations

See Diagram below



Absolute Maximum Ratings

Parameter		Symbol	Rating	Units
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GS}	± 20	V
Drain Current (Note 1)	Continuous	I_D	6.3	A
	Pulsed		40	
Total Power Dissipation		P_D	2	mW
Operating Junction Temperature Range		T_J	-55 to 150	$^{\circ}C$

Thermal Characteristics

Parameter		Symbol	Typ	Max	Units
Maximum Junction-to-Ambient θ_{JA}	$t \leq 10s$	$R_{\theta JA}$	50	62.2	$^{\circ}C/W$
	Steady-State		73	110	$^{\circ}C/W$
Maximum Junction-to-Lead θ_{JL}	Steady-State	$R_{\theta JL}$	31	40	$^{\circ}C/W$

Electrical Characteristics (T _J =25°C unless otherwise noted)						
Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
OFF/ON CHARACTERISTICS (Note 2)						
BV _{DSS}	Drain-Source Breakdown Voltage	I _D =250 μ A, V _{GS} =0 V	60			V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =48 V, V _{GS} =0 V			1	μ A
I _{GSS}	Gate-Body leakage current	V _{DS} =0 V, V _{GS} =±20 V			±100	μ A
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} I _D =-250 μ A	1	2.1	3	V
R _{DS(ON)}	Static Drain-Source On-Resistance ²	V _{GS} =-10V, I _D =6.3 A	-	25	32	mΩ
		V _{GS} =4.5V, I _D =-5.7A	-	27	37	
g _{FS}	Forward Transconductance	V _{DS} =5V, I _D =6.3A	-	27	-	S
DYNAMIC PARAMETERS						
C _{iss}	Input Capacitance	V _{GS} =0V, V _{DS} =30V, f=1MHz	-	1920	2300	pF
C _{oss}	Output Capacitance		-	155	-	pF
C _{rss}	Reverse Transfer Capacitance		-	116	-	pF
t _{ON}	Turn-On Time	V _{DS} =30V, R _L = 4.7 Ω V _{GS} = 10 V, R _{GEN} = 3 Ω	-	7.6	-	ns
t _{OFF}	Turn-Off Time		-	5	-	ns
t _r	Turn-on Rise Time		-	28.9	-	ns
t _f	Turn-on Fall Time		-	5.5	-	ns
Q _{g(10)}	Total Gate Charge	V _{DS} =15V, I _D =6.3A, V _{GS} =10V		47.6	58	nC
Q _{gs}	Gate-Source Charge			6		nC
Q _{gd}	Gate-Drain Charge			14.4		nC
t _{rr}	Body Diode Reverse Recovery Time	I _F =6.3A, dI/dt=100A/μ s		33.2	40	nS
Q _{rr}	Body Diode Reverse Recovery Charge	I _F =6.3A, dI/dt=100A/μ s		43		Nc

Typical Characteristics

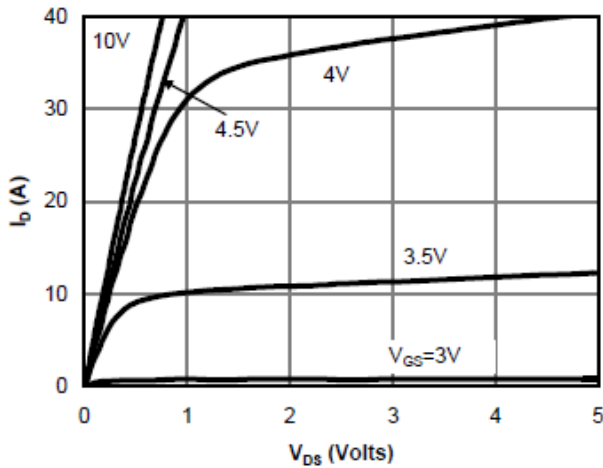


Fig 1: On-Region Characteristics

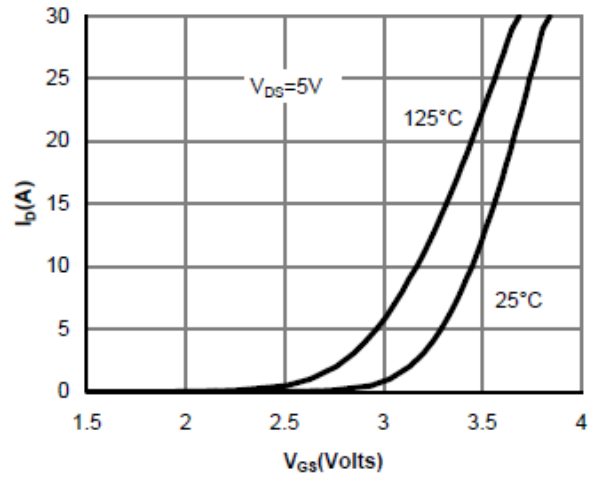


Figure 2: Transfer Characteristics

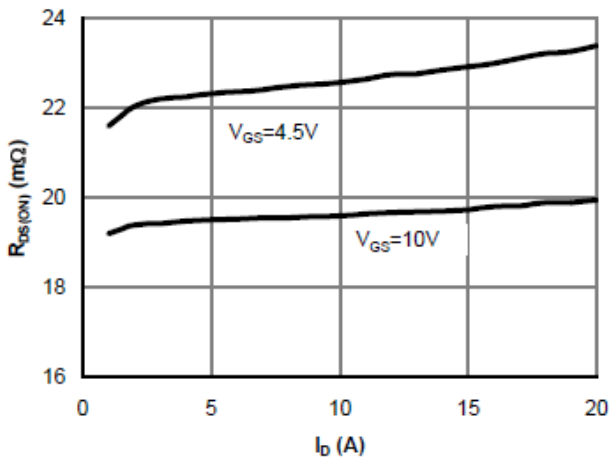


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

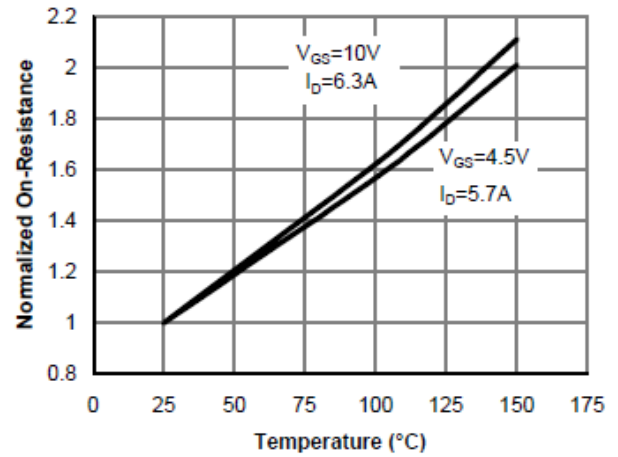


Figure 4: On-Resistance vs. Junction Temperature

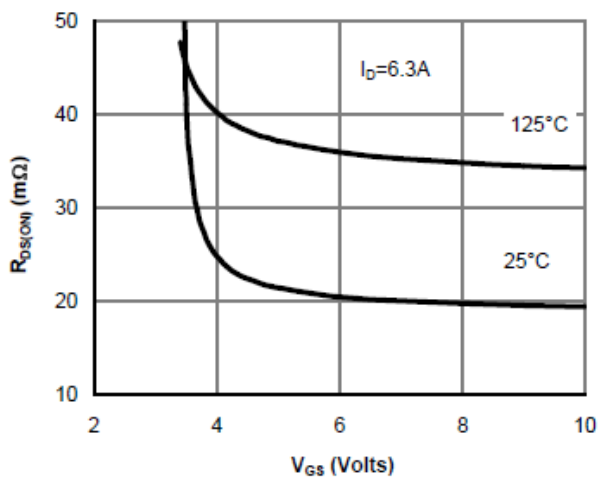


Figure 5: On-Resistance vs. Gate-Source Voltage

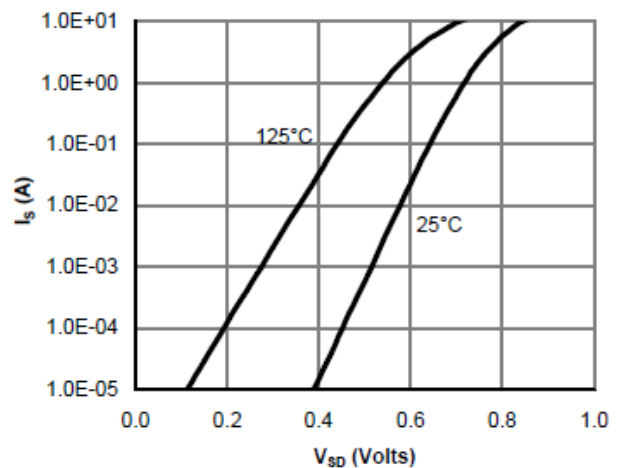


Figure 6: Body-Diode Characteristics

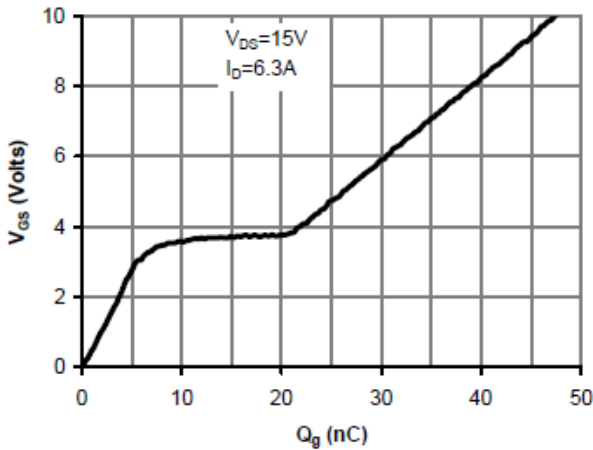


Figure 7: Gate-Charge Characteristics

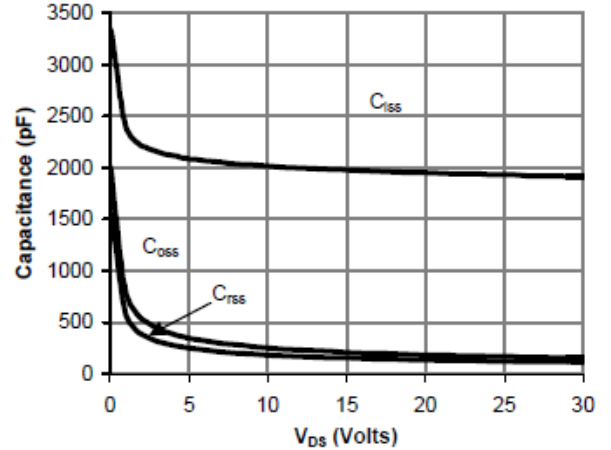


Figure 8: Capacitance Characteristics

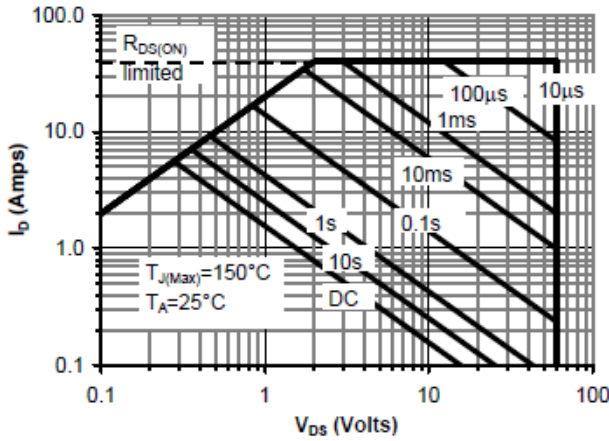


Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

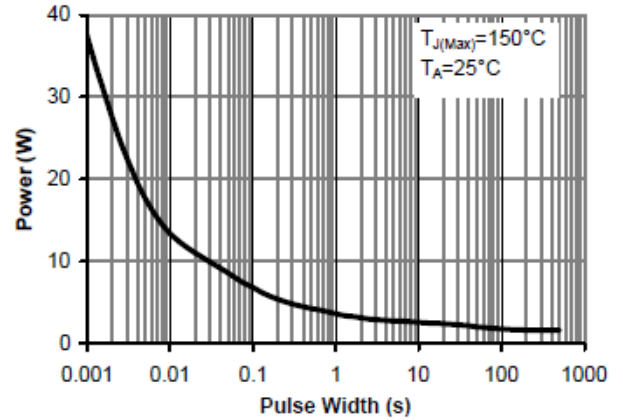


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

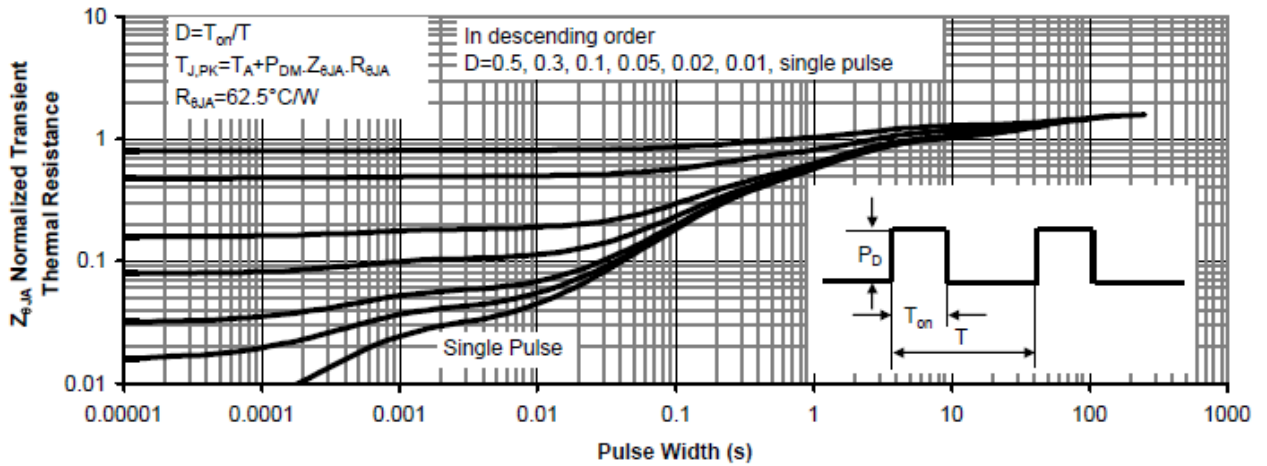
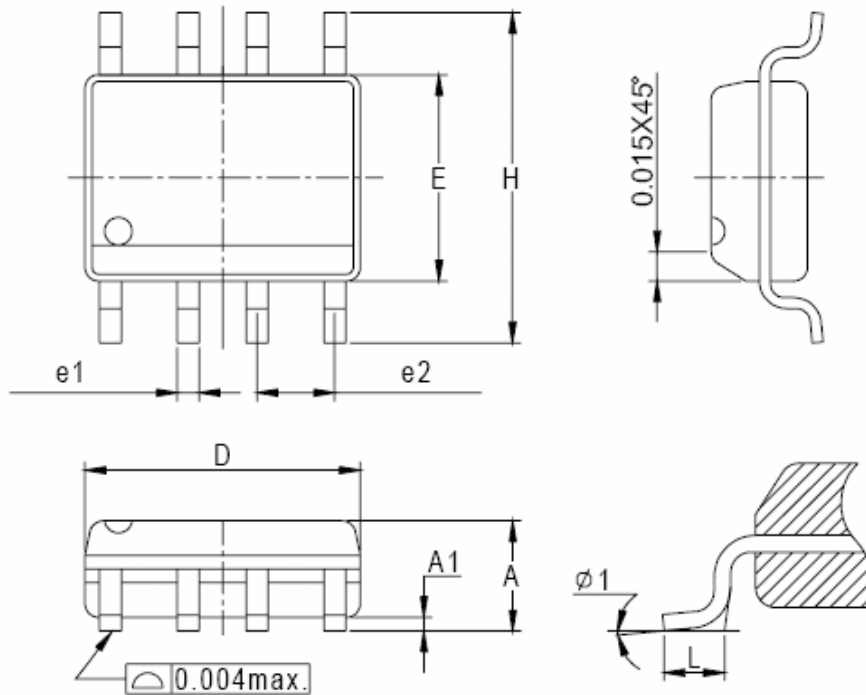


Figure 11: Normalized Maximum Transient Thermal Impedance

Packaging Information

SOP-8 pin



Dim	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.35	1.75	0.053	0.069
A1	0.10	0.25	0.004	0.010
D	4.80	5.00	0.189	0.197
E	3.80	4.00	0.150	0.157
H	5.80	6.20	0.228	0.244
L	0.40	1.27	0.016	0.050
e1	0.33	0.51	0.013	0.020
e2	1.27BSC		0.50BSC	
φ 1	8°		8°	

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