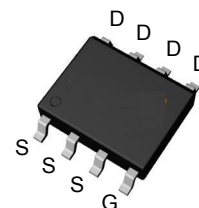


P-Channl Enhancement Mode MOSFET Pin Description

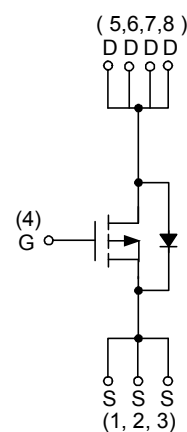
- -30V/-6A
- $R_{DS(ON)}=38m\Omega$ (typ) @ $V_{GS}=10V$
 $R_{DS(ON)}=65m\Omega$ (typ) @ $V_{GS}=4.5V$
- 100% UIS & RG Tested
- Reliable and Rugged
- Lead Free and Green Devices Available
(RoHS Compliant)

Applications

- Power Management for Industrial DC/DC Converters



Top View of SOP-8



P-Channel MOSFET

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

Symbol	Parameter	Rating	Unit
Common Ratings			
V_{DSS}	Drain-Source Voltage	-30	V
V_{GSS}	Gate-Source Voltage	± 20	
I_D	Continuous Drain Current $T_A = 25^\circ\text{C}$	-6	A
I_{DM}	Pulsed Drain Current	-18	A
I_S	Diode Continuous Forward Current	-6	A
P_D	Power Dissipation $T_A = 25^\circ\text{C}$	2.8	W
		$T_A = 70^\circ\text{C}$ 1.8	
$R_{\theta JA}$	Thermal Resistance-Junction to Ambient	62.5	$^\circ\text{C/W}$
T_{STG}, T_J	Storage Temperature Range	-55 to 150	$^\circ\text{C}$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress rating only and functional device operation is not implied

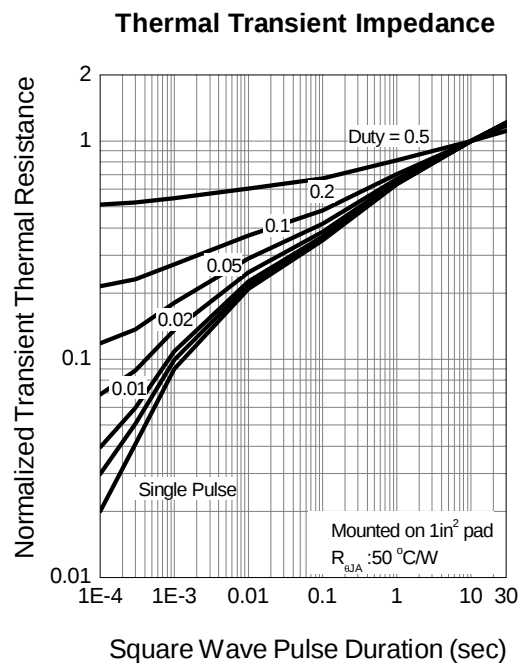
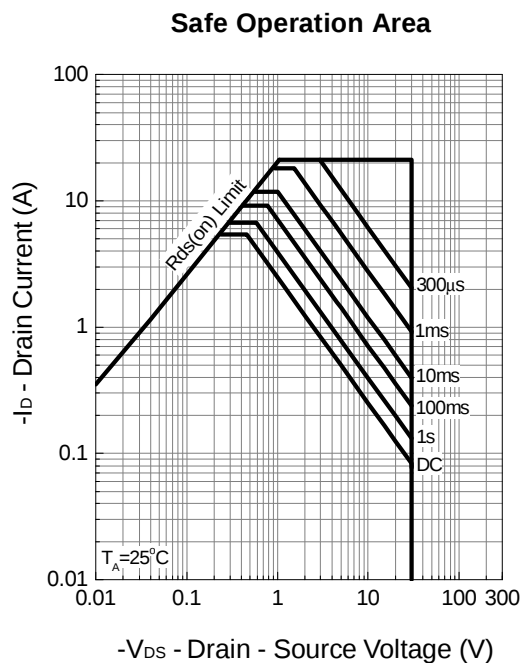
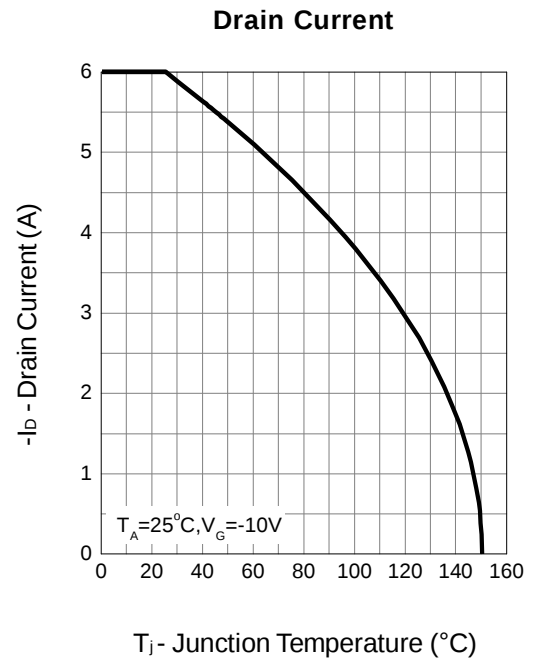
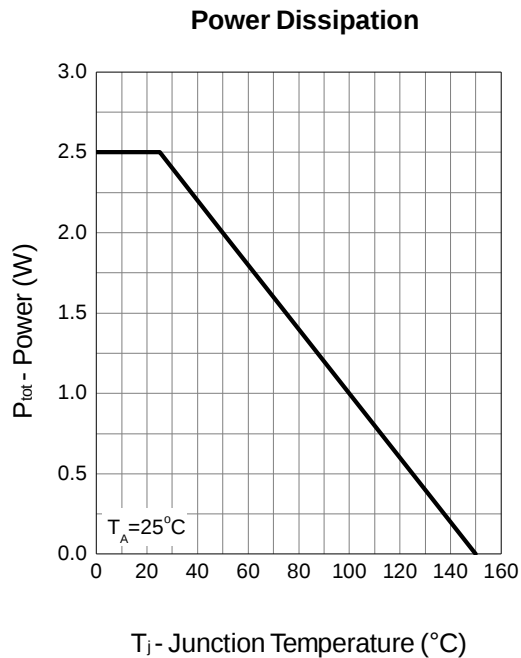
Electrical Characteristics (T_A = 25°C unless otherwise noted)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _{DS} =-250μA	-30	-	-	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =-24V, V _{GS} =0V	-	-	-1	μA
		Tj=85°C	-	-	-30	
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _{DS} =250μA	-1		-2.5	V
I _{GSS}	Gate Leakage Current	V _{GS} =±25V, V _{DS} =0V	-	-	±100	nA
R _{DS(ON)}	Drain-Source On-state Resistance	V _{GS} =-10V, I _{DS} =-5.8A	-	38	48	mΩ
		V _{GS} =-4.5V, I _{DS} =-4A	-	65	75	
Body Diode Characteristics						
V _{SD}	Diode Forward Voltage	I _{SD} =-2A, V _{GS} =0V	-	-0.8	-1.2	V
Dynamic Characteristics						
C _{iss}	Input Capacitance	V _{GS} =0V, V _{DS} =-15V, Frequency=1.0MHz	-	550	-	pF
C _{oss}	Output Capacitance		-	90	-	
C _{rss}	Reverse transfer capacitance		-	60	-	
t _{d(ON)}	Turn-on delay Time	V _{GS} =-10V ,V _{DS} =15V R _G =6Ω, I _D =1A,R _L =15Ω	-	6	-	nS
t _r	Turn-on rise Time		-	8	-	
t _{d(OFF)}	Turn-off delay Time		-	23	-	
t _f	Turn-off rise Time		-	4	-	
Gate Charge Characteristics						
Q _g	Total Gate Charge	V _{DS} =-15V, V _{GS} =-10V, I _{DS} =-5A	-	10.5	-	nC
Q _{gs}	Gate-Source Charge		-	1.5	-	
Q _{gd}	Gate-Drain Charge		-	2.4	-	

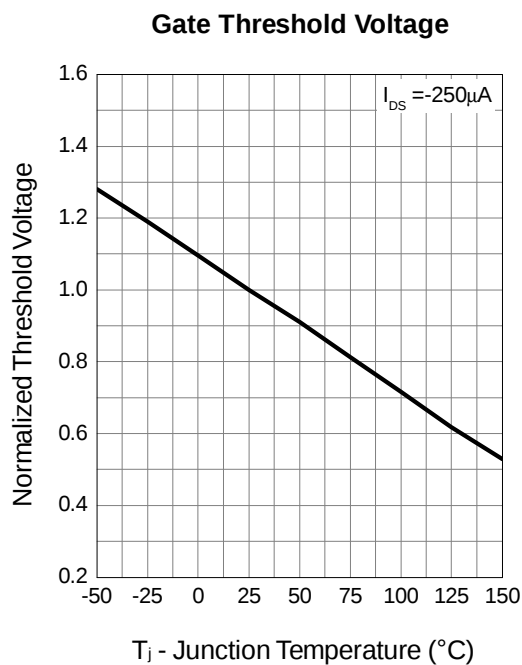
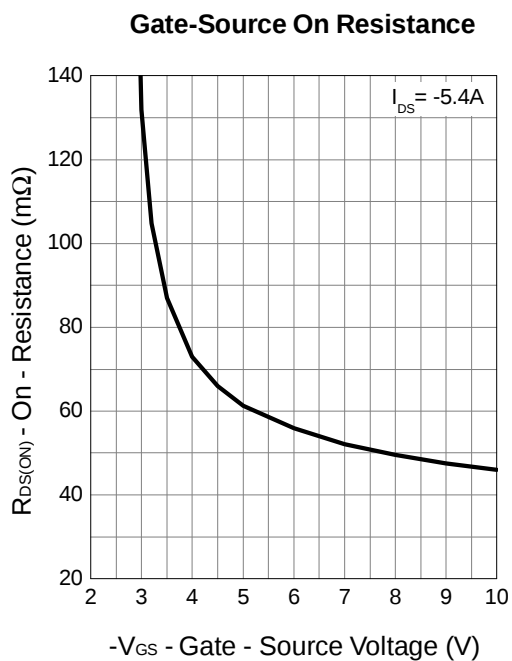
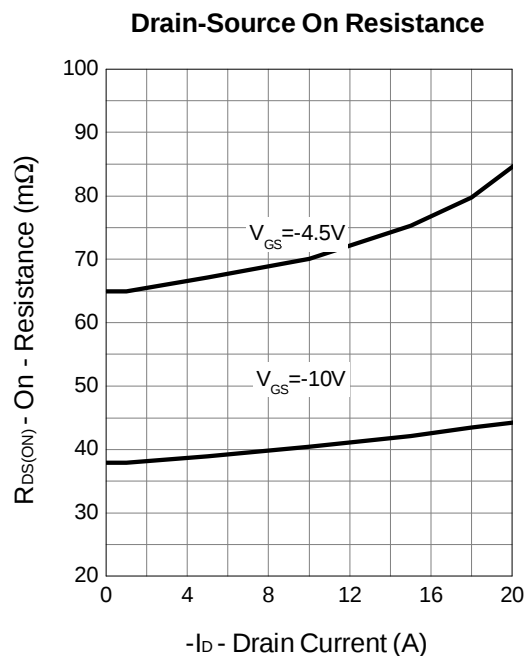
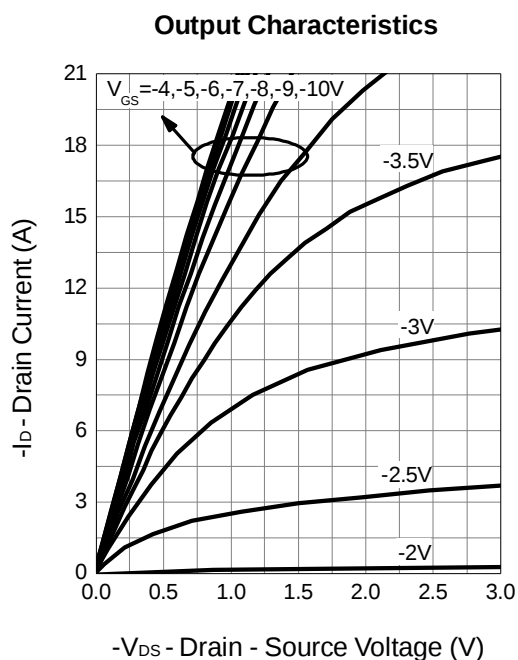
Note: 1. Pulse test: pulse width≤300uS, duty cycle≤2%

2.Static parameters are based on package level with recommended wire bonding

Typical Characteristics

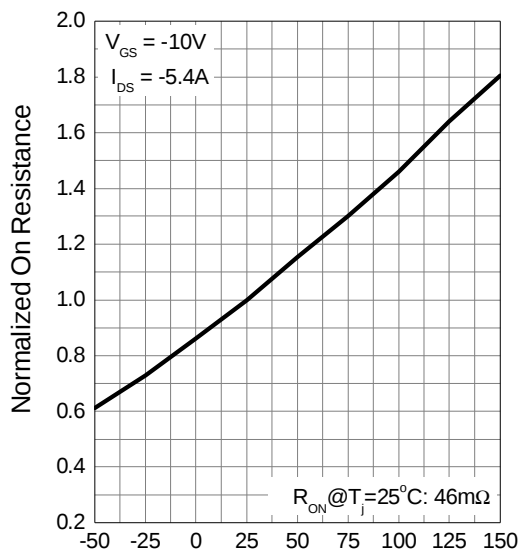


Typical Characteristics (Cont.)



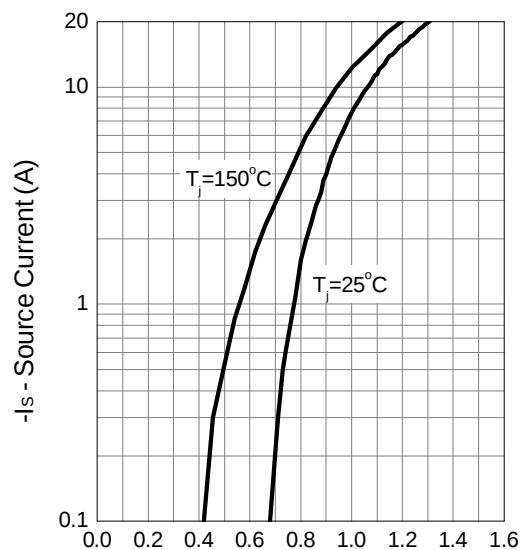
Typical Characteristics (Cont.)

Drain-Source On Resistance



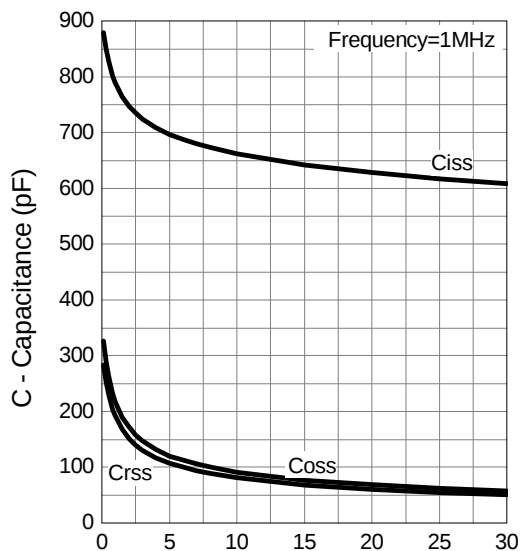
T_J - Junction Temperature ($^{\circ}\text{C}$)

Source-Drain Diode Forward



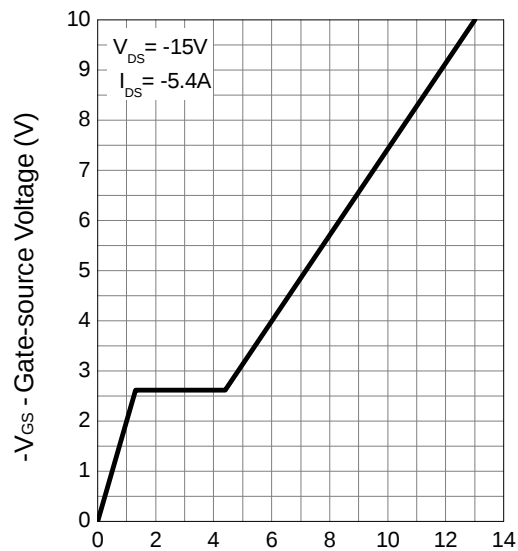
$-V_{SD}$ - Source - Drain Voltage (V)

Capacitance



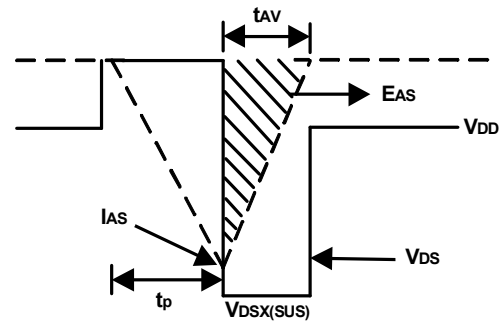
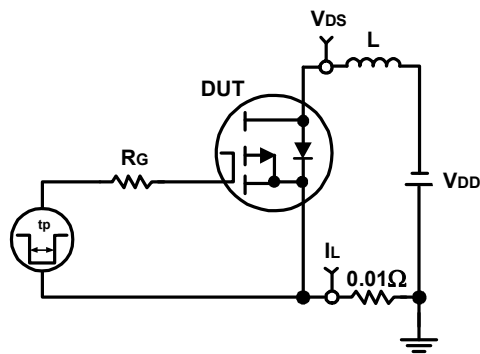
$-V_{DS}$ - Drain - Source Voltage (V)

Gate Charge

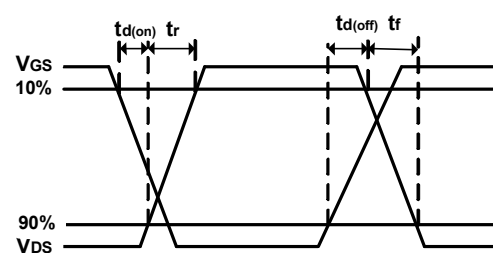
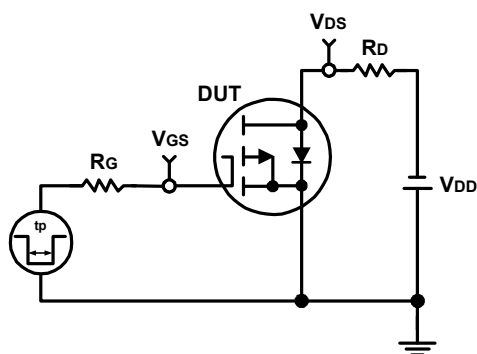


Q_G - Gate Charge (nC)

Avalanche Test Circuit and Waveforms

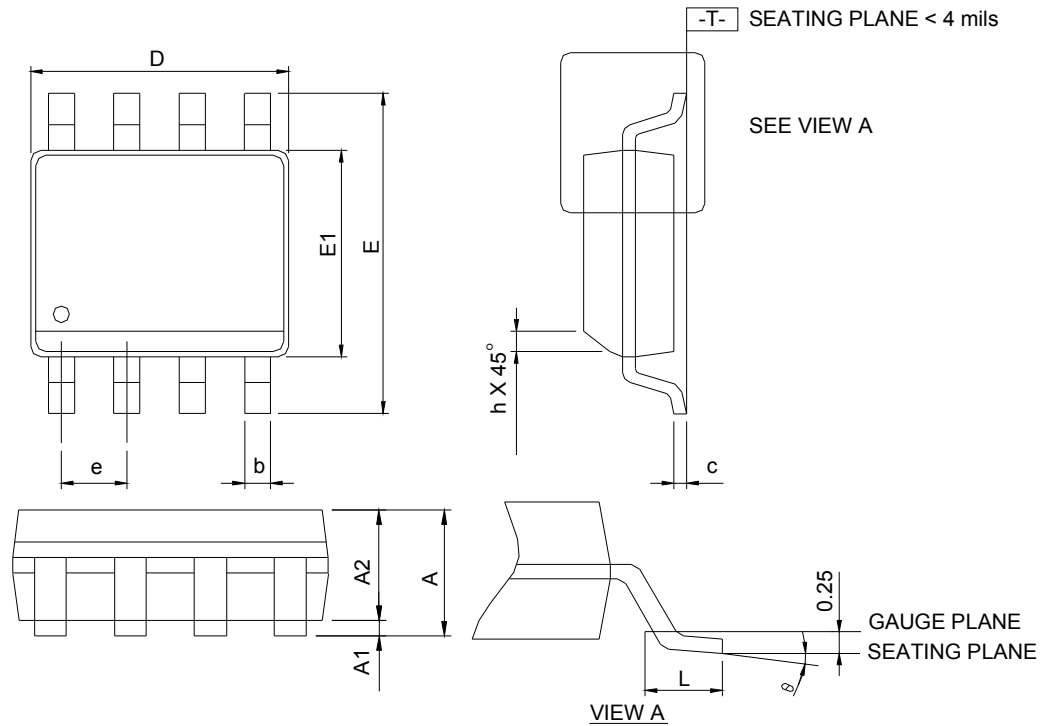


Switching Time Test Circuit and Waveforms



Package Information

SOP-8



SOP-8	SOP-8			
	MILLIMETERS		INCHES	
	MIN.	MAX.	MIN.	MAX.
A	-	1.75	-	0.069
A1	0.10	0.25	0.004	0.010
A2	1.25	-	0.049	-
b	0.31	0.51	0.012	0.020
c	0.17	0.25	0.007	0.010
D	4.80	5.00	0.189	0.197
E	5.80	6.20	0.228	0.244
E1	3.80	4.00	0.150	0.157
e	1.27 BSC		0.050 BSC	
h	0.25	0.50	0.010	0.020
L	0.40	1.27	0.016	0.050
θ	0°	8°	0°	8°

Note: 1. Follow JEDEC MS-012 AA.

2. Dimension "D" does not include mold flash, protrusions or gate burrs. Mold flash, protrusion or gate burrs shall not exceed 6 mil per side.

3. Dimension "E" does not include inter-lead flash or protrusions. Inter-lead flash and protrusions shall not exceed 10 mil per side.

RECOMMENDED LAND PATTERN

