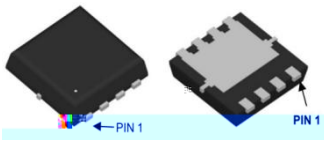
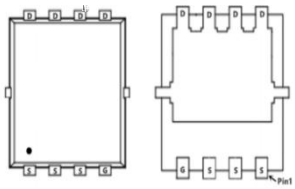
Main Product Characteristics:

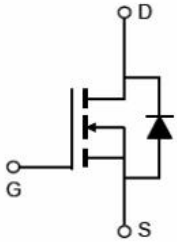
V_{DSS}	60V
R_{DS}(on)	4.8mΩ(typ.)
I_D	60A



PDFN 3*3-8L



Pin Assignments



Schematic Diagram

Features and Benefits:

Advanced MOSFET process technology
Special designed for PWM, load switching and general purpose applications
Ultra low on-resistance with low gate charge
Fast switching and reverse body recovery
150 operating temperature

Description:

It utilizes the latest processing techniques to achieve the high cell density and reduces the on-resistance with high repetitive avalanche rating. These features combine to make this design an extremely efficient and reliable device for use in power switching application and a wide variety of other applications.

Absolute Max Rating:

Symbol	Parameter	Max.	Units
I_D @ T_C = 25°C	Continuous Drain Current, V_{GS} @ 10V	60	A
I_{DM}	Pulsed Drain Current	240	
P_D @T_C = 25°C	Power Dissipation	78	W
V_{DS}	Drain-Source Voltage	60	V
V_{GS}	Gate-to-Source Voltage	± 20	V
T_J T_{STG}	Operating Junction and Storage Temperature Range	-55 to +150	°C

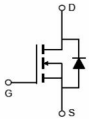
Thermal Resistance

Symbol	Characterizes	Typ.	Max.	Units
$R_{\theta JC}$	Junction-to-case	—	1.6	/W

Electrical Characteristics @T_A=25 unless otherwise specified

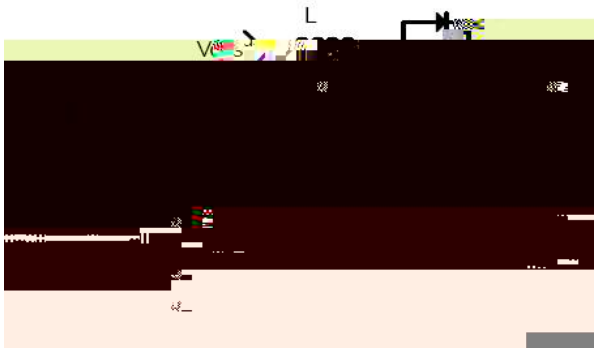
Symbol	Parameter	Min.	Typ.	Max.	Units	Conditions
$V_{(BR)DSS}$	Drain-to-Source breakdown voltage	60	—	—	V	V_{GS} = 0V, I_D = 250μA
$R_{DS(on)}$	Static Drain-to-Source on-resistance	—	4.8	5.7	mΩ	V_{GS}=10V,I_D =30A
		—	6.7	8		V_{GS}=4.5V,I_D =20A
$V_{GS(th)}$	Gate threshold voltage	1	—	2.5	V	V_{DS} = V_{GS}, I_D =250μA
I_{DSS}	Drain-to-Source leakage current	—	—	1	uA	V_{DS} =60V,V_{GS} = 0V
I_{GSS}	Gate-to-Source forward leakage	—	—	100	nA	V_{GS} =20V
		—	—	-100		V_{GS} = -20V
Q_g	Total gate charge	—	32	—	nC	I_D = 20A, V_{DS}=30V, V_{GS} = 10V
Q_{gs}	Gate-to-Source charge	—	4.7	—		
Q_{gd}	Gate-to-Drain("Miller") charge	—	5.1	—		
$t_{d(on)}$	Turn-on delay time	—	6.5	—	ns	V_{GS}=10V, V_{DS}=30V, R_{GEN}=6Ω I_D = 20A
t_r	Rise time	—	9	—		
$t_{d(off)}$	Turn-Off delay time	—	39	—		
t_f	Fall time	—	17	—		
C_{iss}	Input capacitance	—	2142	—	pF	V_{GS} = 0V V_{DS} = 25V f = 1MHz
C_{oss}	Output capacitance	—	852	—		
C_{rss}	Reverse transfer capacitance	—	61	—		

Source-Drain Ratings and Characteristics

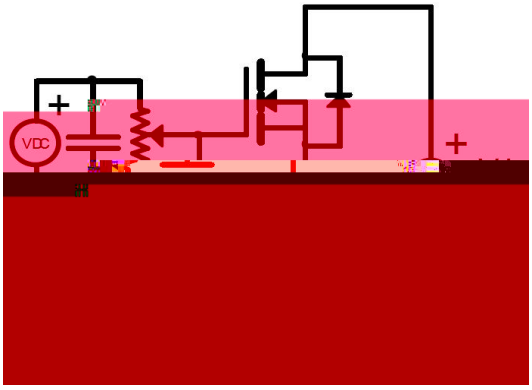
Symbol	Parameter	Min.	Typ.	Max.	Units	Conditions
I_S	Continuous Source Current (Body Diode)	—	—	60	A	MOSFET symbol showing the integral reverse p-n junction diode. 
I_{SM}	Pulsed Source Current (Body Diode)	—	—	240	A	
V_{SD}	Diode Forward Voltage	—	—	1.2	V	I_S=30A, V_{GS}=0V

Test Circuits and Waveforms

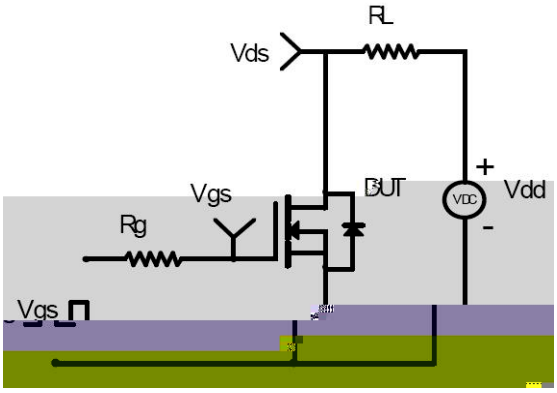
EAS Test Circuit:



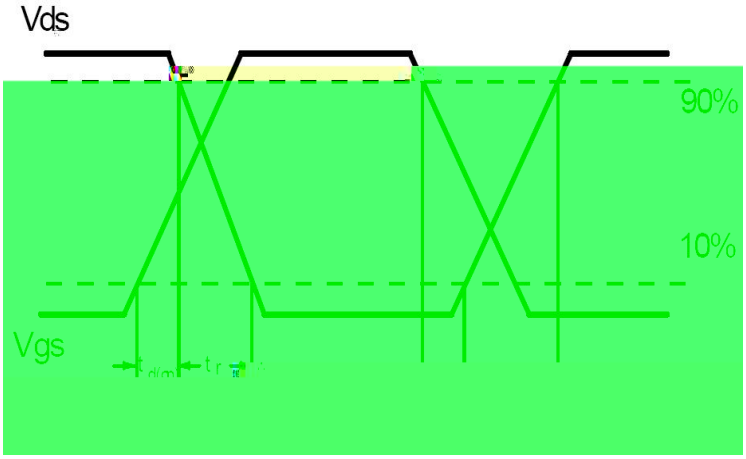
Gate Charge Test Circuit:



Switching Time Test Circuit:



Switching Waveforms:

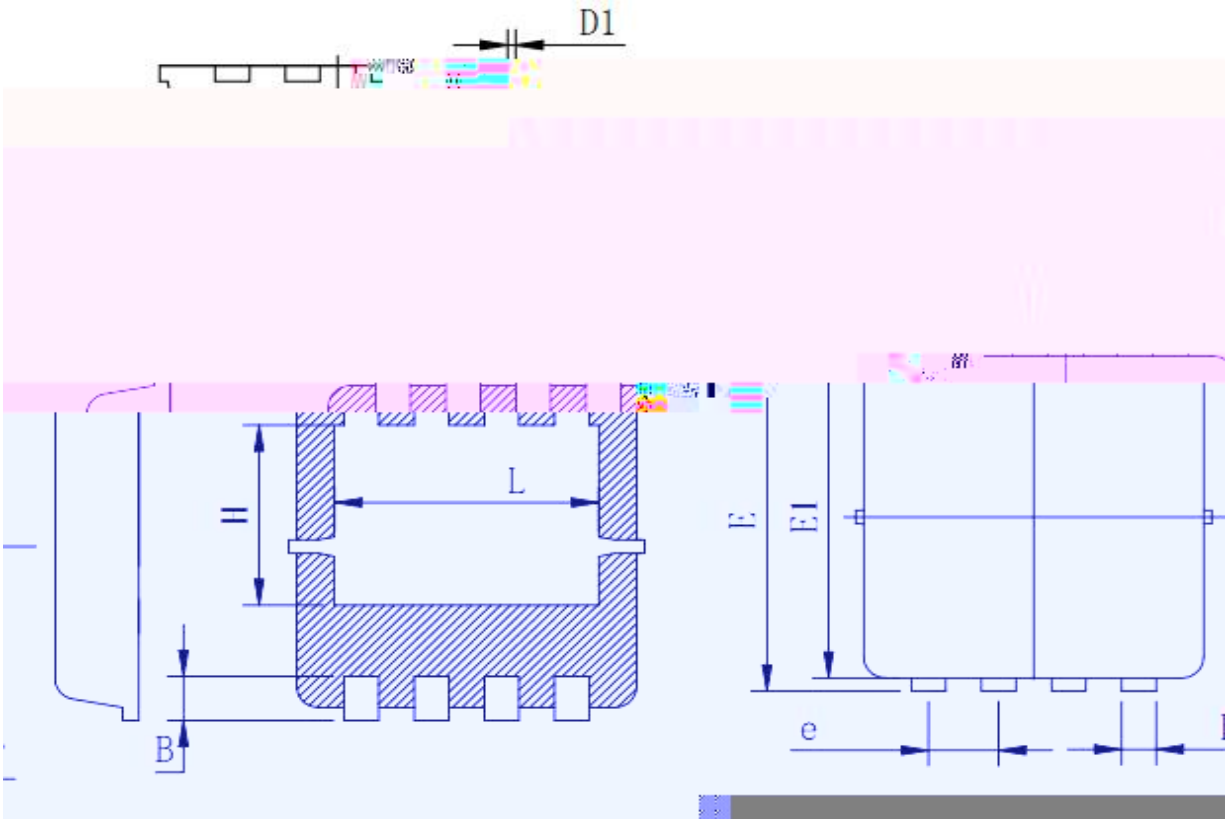


Notes:

Calculated continuous current based on maximum allowable junction temperature.
Repetitive rating; pulse width limited by max. junction temperature.
The power dissipation P_D is based on max. junction temperature, using junction-to-case thermal resistance.

Mechanical Data

PDFN 3*3-8L Package Outline(Unit:mm)



Symbol	Min	Typ	Max
A	0.725	0.775	0.825
B	0.28	0.38	0.48
C	0.13	0.15	0.20
D	3.05	3.15	3.25
D1			0.10
E	3.25	3.35	3.45
E1	3.0	3.1	3.2
e	0.60	0.65	0.70
F	0.25	0.30	0.35
H			

ATTENTION:

- Any and all Silikron products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your Silikron representative nearest