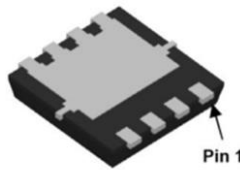
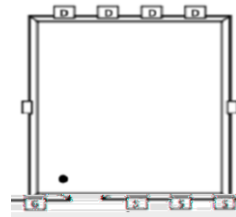


Main Product Characteristics:

V_{DSS}	60V
$R_{DS(on)}$	11m (typ.)
I_D	33A



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
- AEC-Q101 qualified



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
$I_D @ T_A = 25^\circ C$	Continuous Drain Current, $V_{GS} @ 10V$	33	A
I_{DM}	Pulsed Drain Current	108	
P_D	Power Dissipation	39	W
EAS	Single Pulse Avalanche Energy @ $L=0.3mH$	84	mJ
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	$^\circ C$

Thermal Resistance

Symbol	Characterizes	Typ.	Max.	Units
R_c	Junction-to-case		3.2	/W

Electrical Characterizes @ $T_A=25$ unless otherwise specified

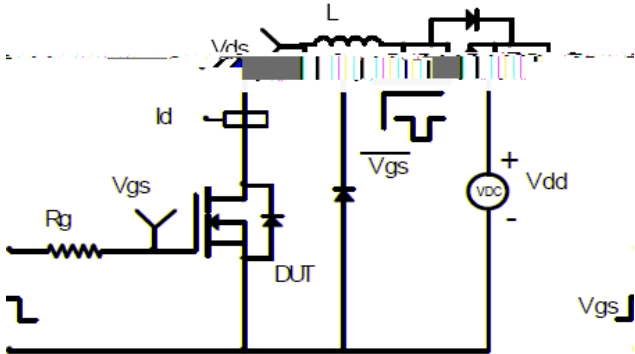
Symbol	Parameter	Min.	Typ.	Max.	Units	Conditions
$V_{(BR)DSS}$	Drain-to-Source breakdown voltage	60			V	$V_{GS} = 0V, I_D$
$R_{DS(on)}$	Static Drain-to-Source on-resistance		11	17	m	$V_{GS}=10V, I_D =30A$
			14	25		$V_{GS}=4.5V, I_D =20A$
$V_{GS(th)}$	Gate threshold voltage	1.0		3.0	V	$V_{DS} = V_{GS}, I_D$
I_{DSS}	Drain-to-Source leakage current			1		$V_{DS} =60V, V_{GS} = 0V$
I_{GSS}	Gate-to-Source forward leakage			100	nA	$V_{GS} =20V$
				-100		$V_{GS} = -20V$
Q_g	Total gate charge		49		nC	$I_D = 30A,$ $V_{DS}=30V,$ $V_{GS} = 10V$
Q_{gs}	Gate-to-Source charge		5.8			
Q_{gd}	Gate-to-Drain("Miller") charge		14			
$t_{d(on)}$	Turn-on delay time		9		ns	$V_{GS}=10V, V_{DS}=30V,$ $R_{GEN}=1.8$ $I_D = 30A$
t_r	Rise time		23			
$t_{d(off)}$	Turn-Off delay time		36			
t_f	Fall time		6			
C_{iss}	Input capacitance		1895		pF	$V_{GS} = 0V$ $V_{DS} = 50V$ 1MHz
C_{oss}	Output capacitance		102			
C_{riss}	Reverse transfer capacitance		90			

Source-Drain Ratings and Characteristics

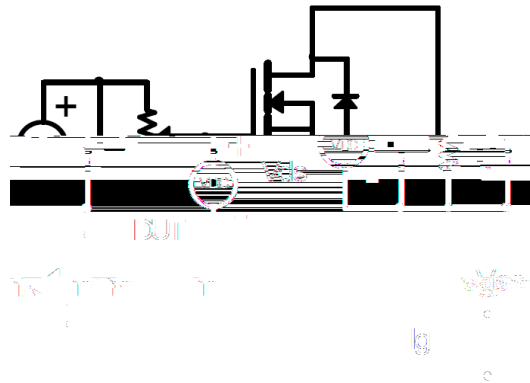
Symbol	Parameter	Min.	Typ.	Max.	Units	Conditions
I_s	Continuous Source Current (Body Diode)			33	A	MOSFET symbol showing the integral re5(g)414.26 2teg26

Test Circuits and Waveforms

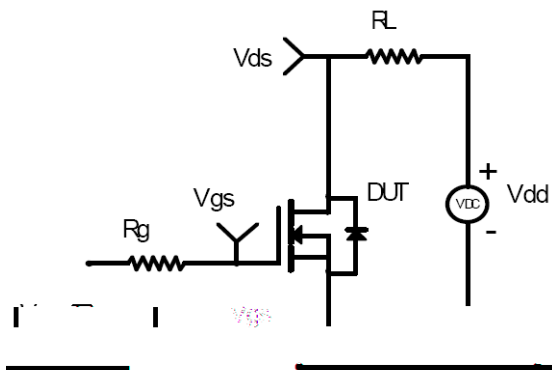
EAS Test Circuit:



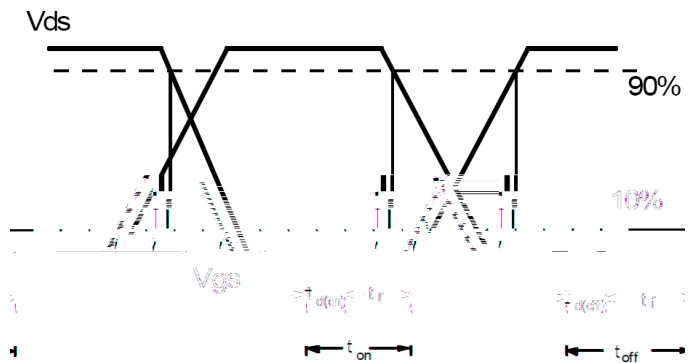
Gate Charge Test Circuit:



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 PD is based on max. Junction temperature, using junction-to-case thermal resistance.

Typical Electrical and Thermal Characteristics

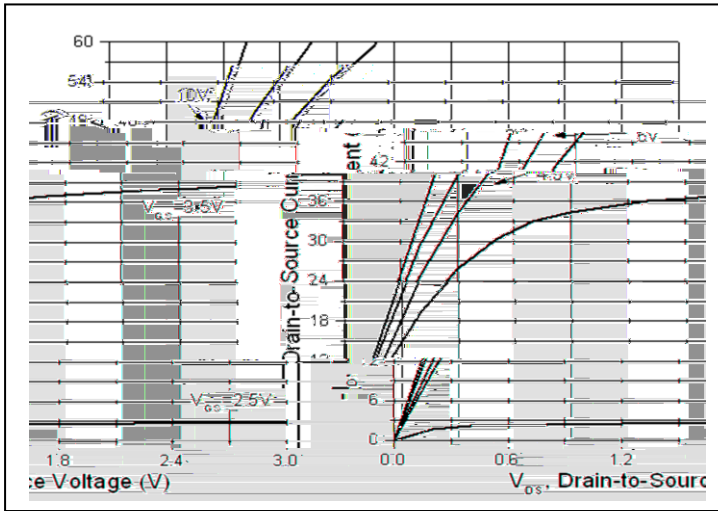


Figure1. Typical Output Characteristics

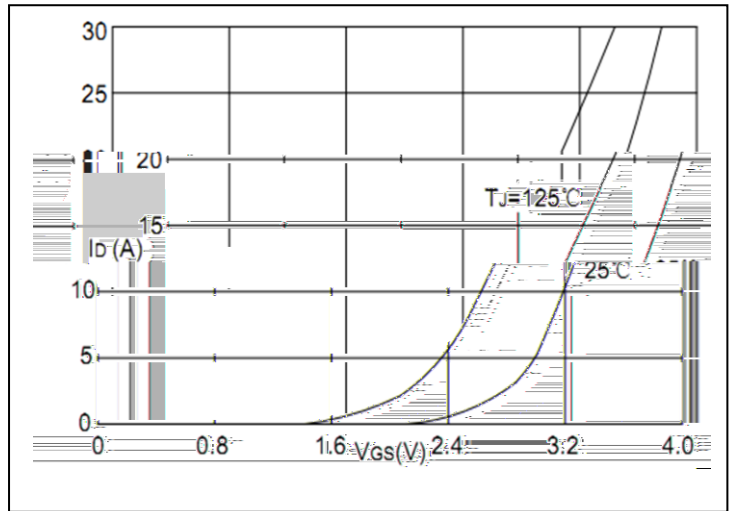


Figure2. Transfer Characteristics

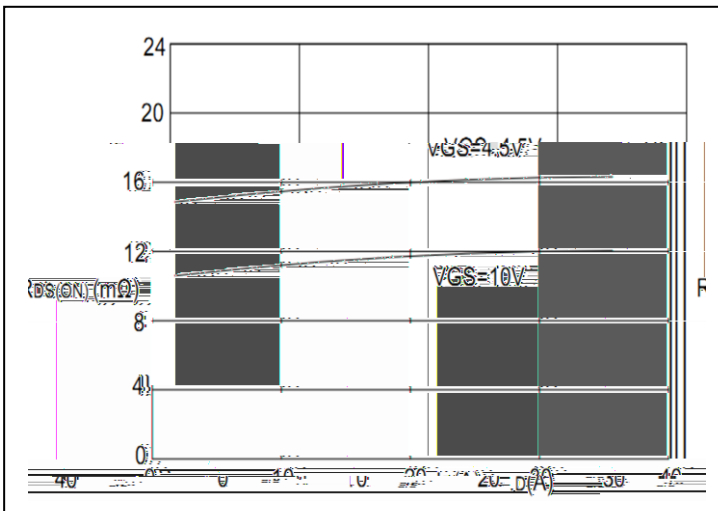


Figure 3. Gate Charge Characteristics

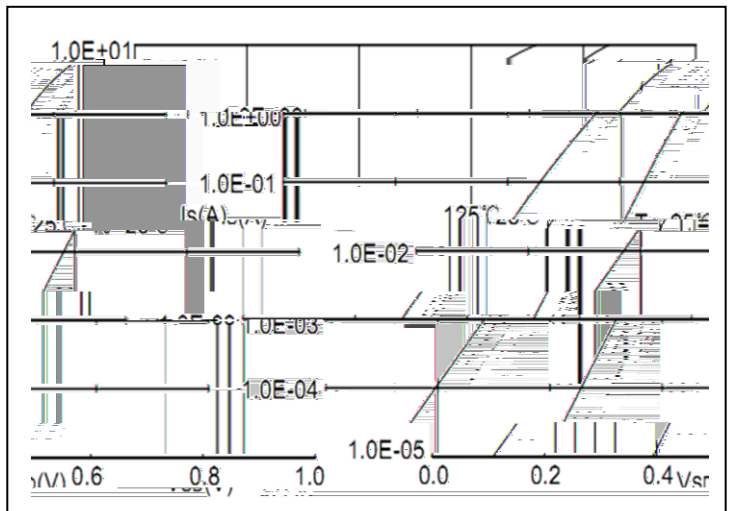


Figure 4. Body Diode Characteristics

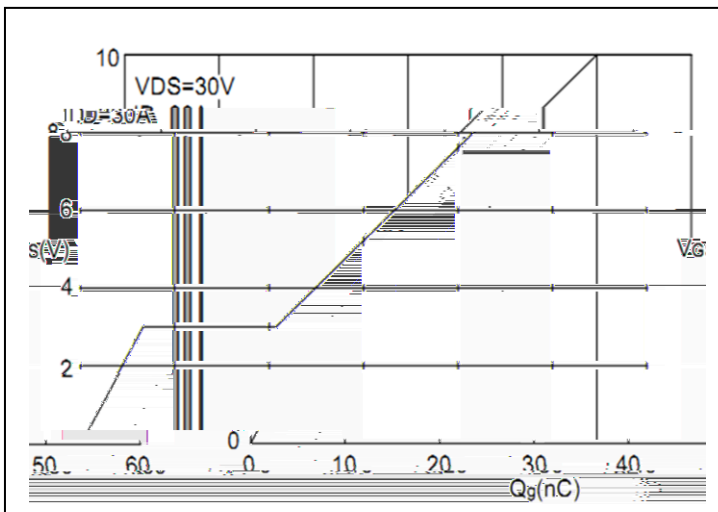


Figure5. Gate Charge

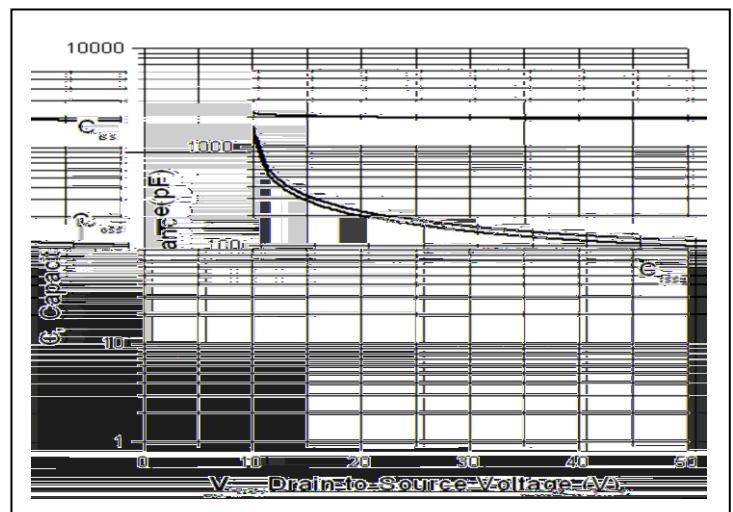
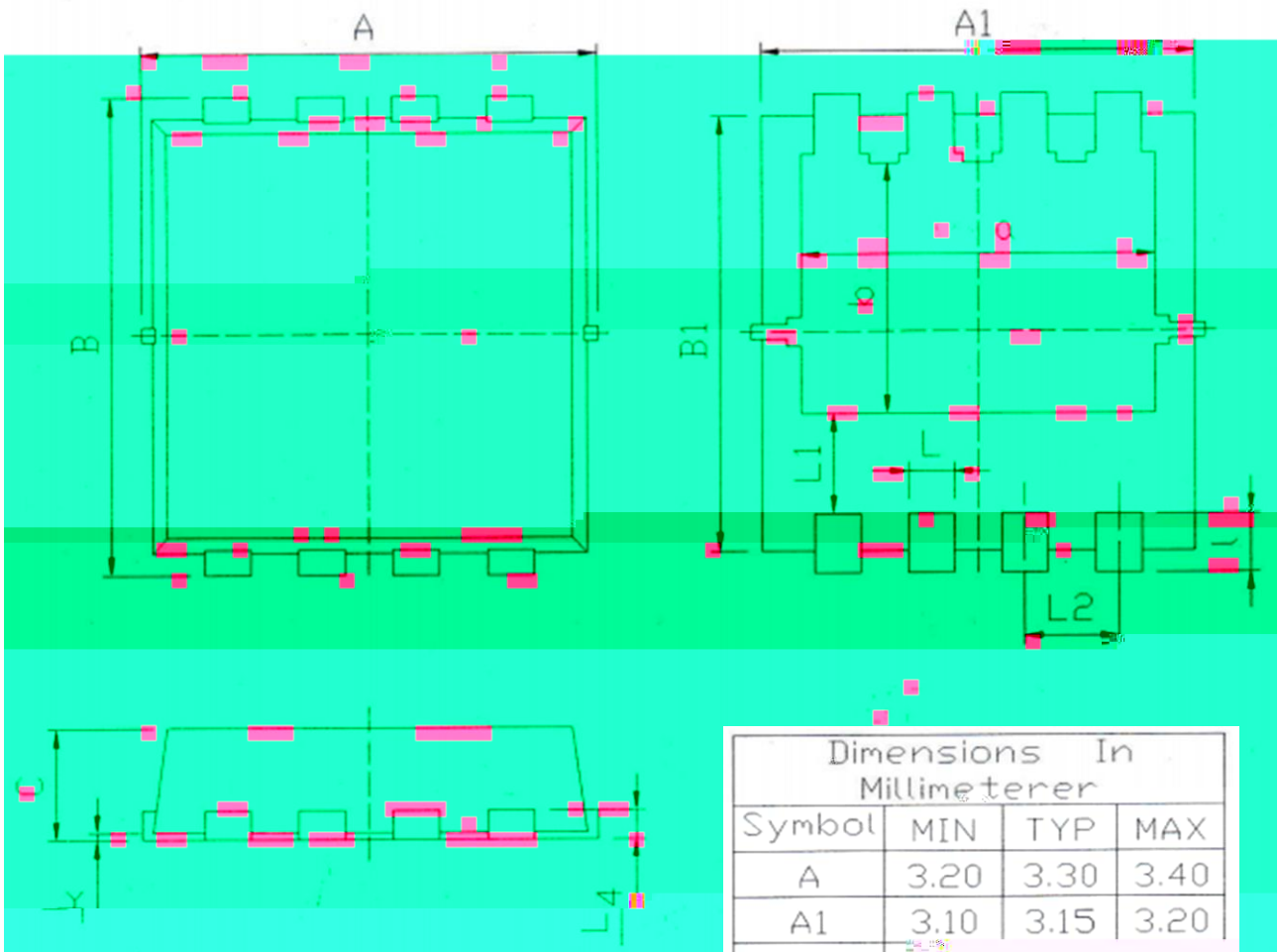


Figure6. Capacitance

Mechanical Data



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