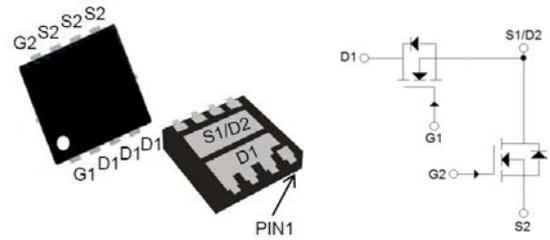


Dual Symmetric N-Channel MOSFET

PRIMARY CHARACTERISTICS		
BV _{DSS}	RDS(on)Max	I _D
30V	9mΩ @V _{GS} =10V	30A
	14mΩ @V _{GS} =4.5V	

PDFN3.3x3.3

PACKAGE


FEATURES

- Fast Switching Speed
- Low gate Charge
- 100% avalanche tested

MECHANICAL DATA

- Case : Molded plastic, PDFN3.3x3.3
- Polarity : Shown above
- Terminals :Plated terminals, solderable per MIL-STD-750,Method 2026
- Epoxy : UL94-V0 rated flame retardant

Absolute Maximum Ratings

Symbol	Parameter	Rating	Unit
Common Ratings (T _C =25°C Unless Otherwise Noted)			
V _{DSS}	Drain-Source Voltage	30	V
V _{GSS}	Gate-Source Voltage	±20	
T _J	Maximum Junction Temperature	150	°C
T _{STG}	Storage Temperature Range	-55 to 150	°C
I _S	Diode Continuous Forward Current	T _C =25°C 20	A
Mounted on Large Heat Sink			
I _{DP}	300μs Pulse Drain Current Tested	T _C =25°C 120	A
I _D	Continuous Drain Current@T _C (V _{GS} =10V)	T _C =25°C 30	A
		T _C =100°C 19	
	Continuous Drain Current@T _A (V _{GS} =10V)	T _A =25°C 10.8	
		T _A =70°C 8.7	
P _D	Maximum Power Dissipation@T _C	T _C =25°C 29	W
		T _C =100°C 12	
	Maximum Power Dissipation@T _A	T _A =25°C 3.5	
		T _A =70°C 2.3	

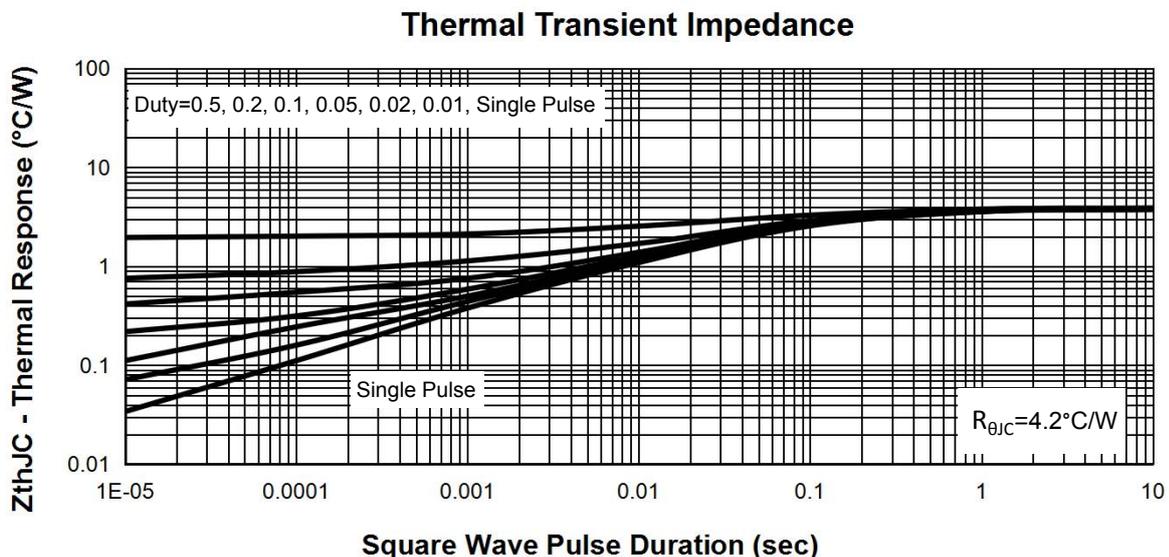
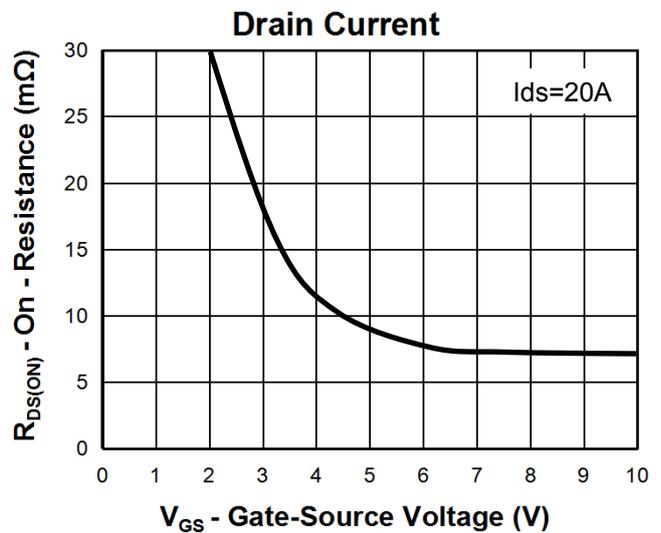
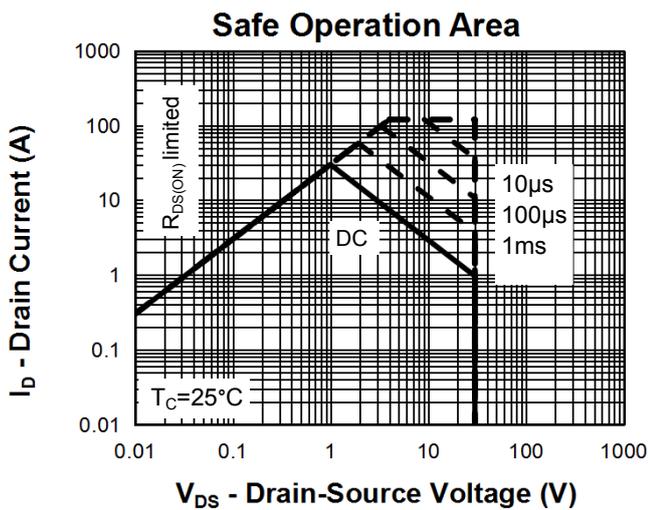
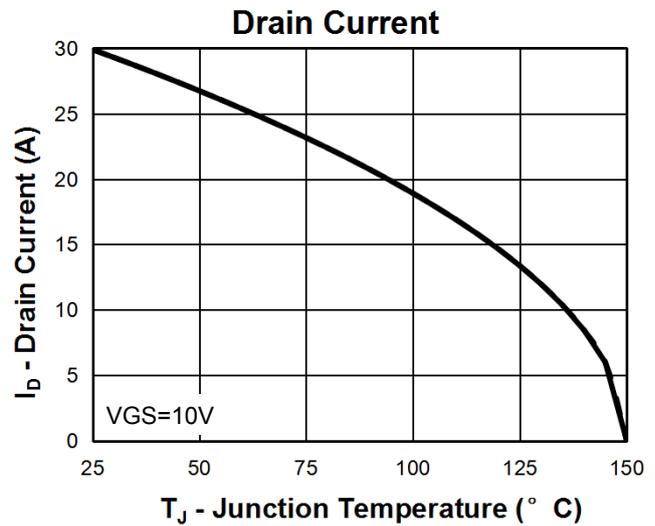
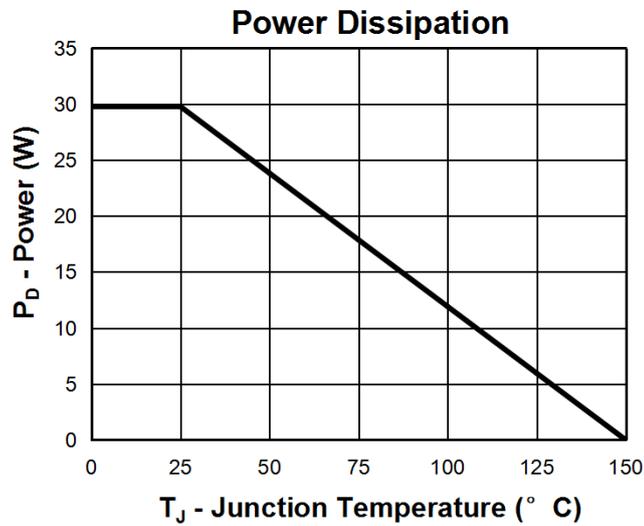
Dual Symmetric N-Channel MOSFET

Symbol	Parameter	Rating	Unit
$R_{\theta JC}$	Thermal Resistance-Junction to Case	4.2	$^{\circ}\text{C/W}$
$R_{\theta JA}$	Thermal Resistance-Junction to Ambient	35	$^{\circ}\text{C/W}$
Drain-Source Avalanche Ratings			
E_{AS}	Avalanche Energy, Single Pulsed	49	mJ

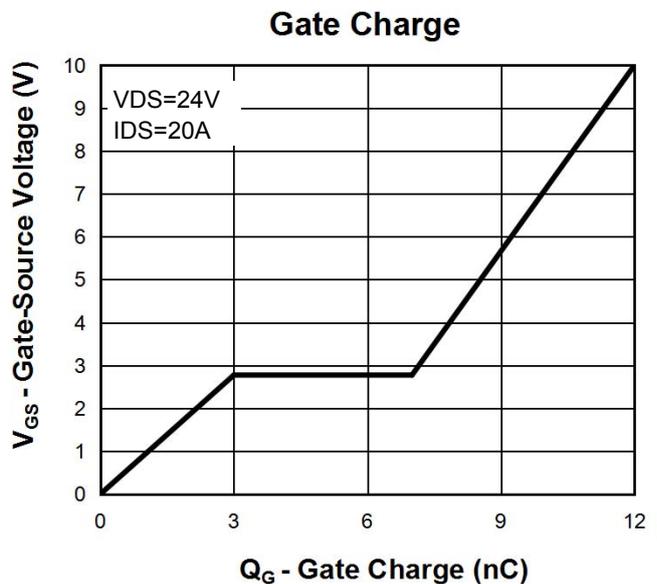
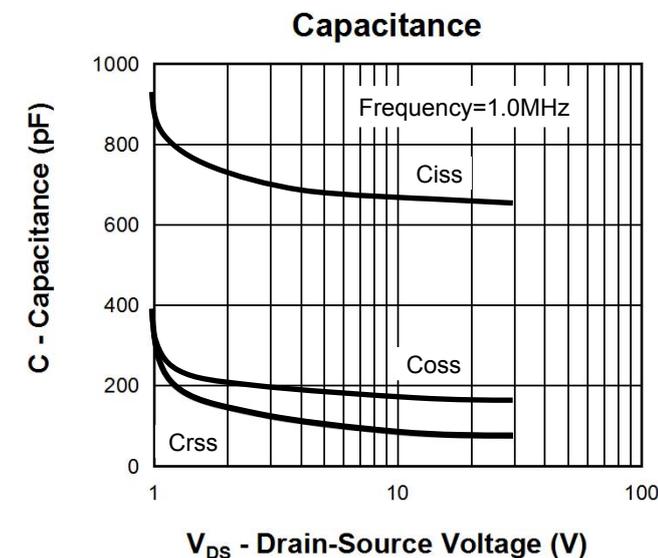
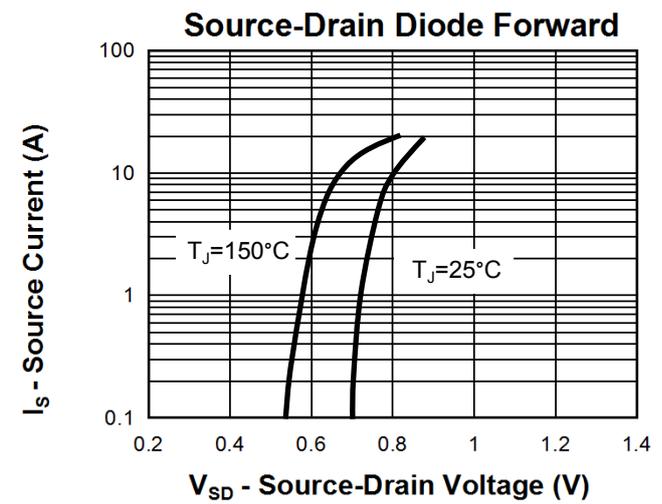
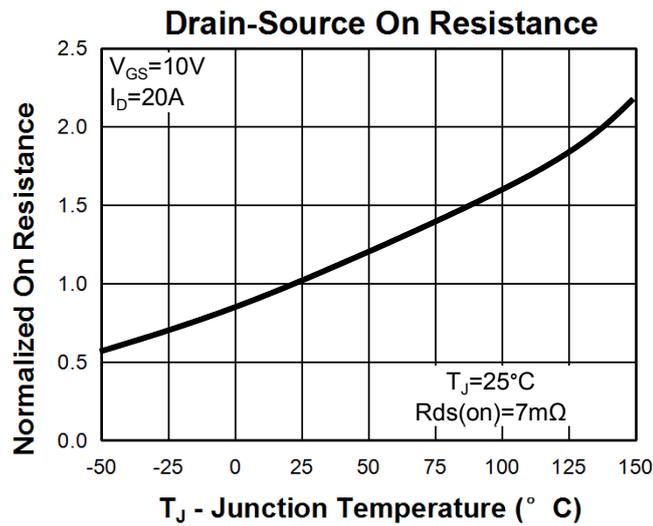
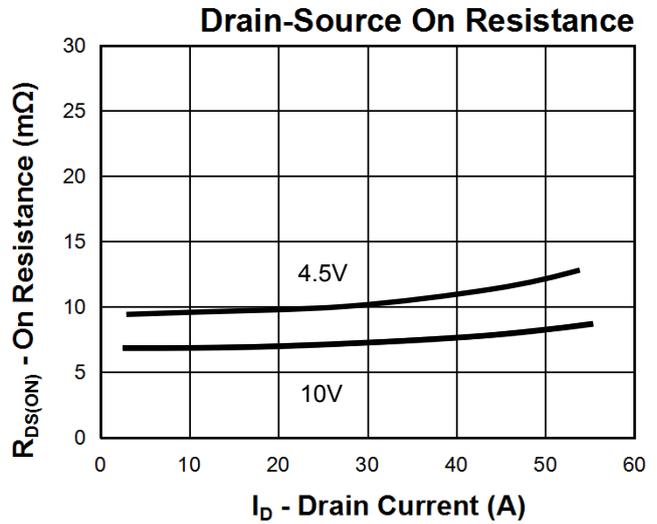
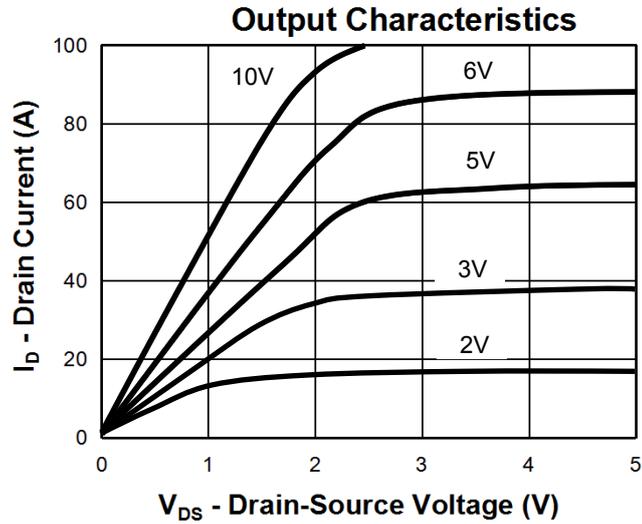
Electrical Characteristics ($T_C=25^{\circ}\text{C}$ Unless Otherwise Noted)

Symbol	Parameter	Test Condition	RU30J30M2			Unit
			Min.	Typ.	Max.	
Static Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_{DS}=250\mu A$	30			V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=30V, V_{GS}=0V$			1	μA
		$T_J=125^{\circ}\text{C}$			30	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_{DS}=250\mu A$	1.2		2.5	V
I_{GSS}	Gate Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0V$			± 100	nA
$R_{DS(ON)}$	Drain-Source On-state Resistance	$V_{GS}=10V, I_{DS}=20A$		7	9	$m\Omega$
		$V_{GS}=4.5V, I_{DS}=16A$		10	14	$m\Omega$
Diode Characteristics						
V_{SD}	Diode Forward Voltage	$I_{SD}=20A, V_{GS}=0V$			1.2	V
t_{rr}	Reverse Recovery Time	$I_{SD}=20A, di_{SD}/dt=100A/\mu s$		15		ns
Q_{rr}	Reverse Recovery Charge			8		nC
Dynamic Characteristics ^⑥						
R_G	Gate Resistance	$V_{GS}=0V, V_{DS}=0V, F=1\text{MHz}$		1		Ω
C_{iss}	Input Capacitance	$V_{GS}=0V,$ $V_{DS}=15V,$ Frequency=1.0MHz		670		pF
C_{oss}	Output Capacitance			180		
C_{rss}	Reverse Transfer Capacitance			75		
$t_{d(ON)}$	Turn-on Delay Time	$V_{DD}=15V, R_L=0.75\Omega,$ $I_{DS}=20A, V_{GEN}=10V,$ $R_G=3\Omega$		5		ns
t_r	Turn-on Rise Time			10		
$t_{d(OFF)}$	Turn-off Delay Time			15		
t_f	Turn-off Fall Time			4		
Gate Charge Characteristics						
Q_g	Total Gate Charge	$V_{DS}=24V, V_{GS}=10V,$ $I_{DS}=20A$		12		nC
Q_{gs}	Gate-Source Charge			3		
Q_{gd}	Gate-Drain Charge			4		

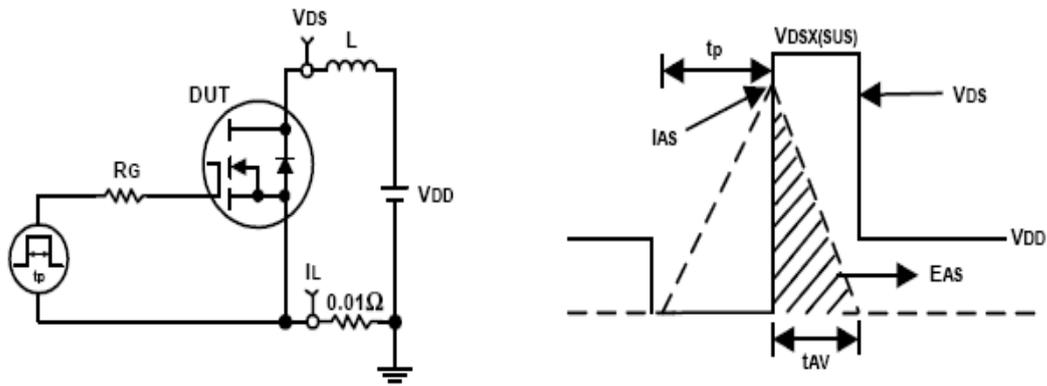
Typical Characteristics



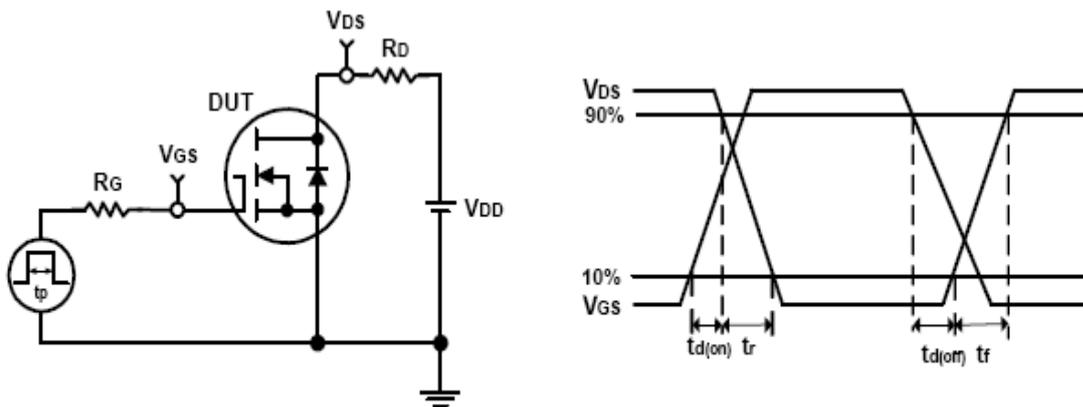
Typical Characteristics



Avalanche Test Circuit and Waveforms

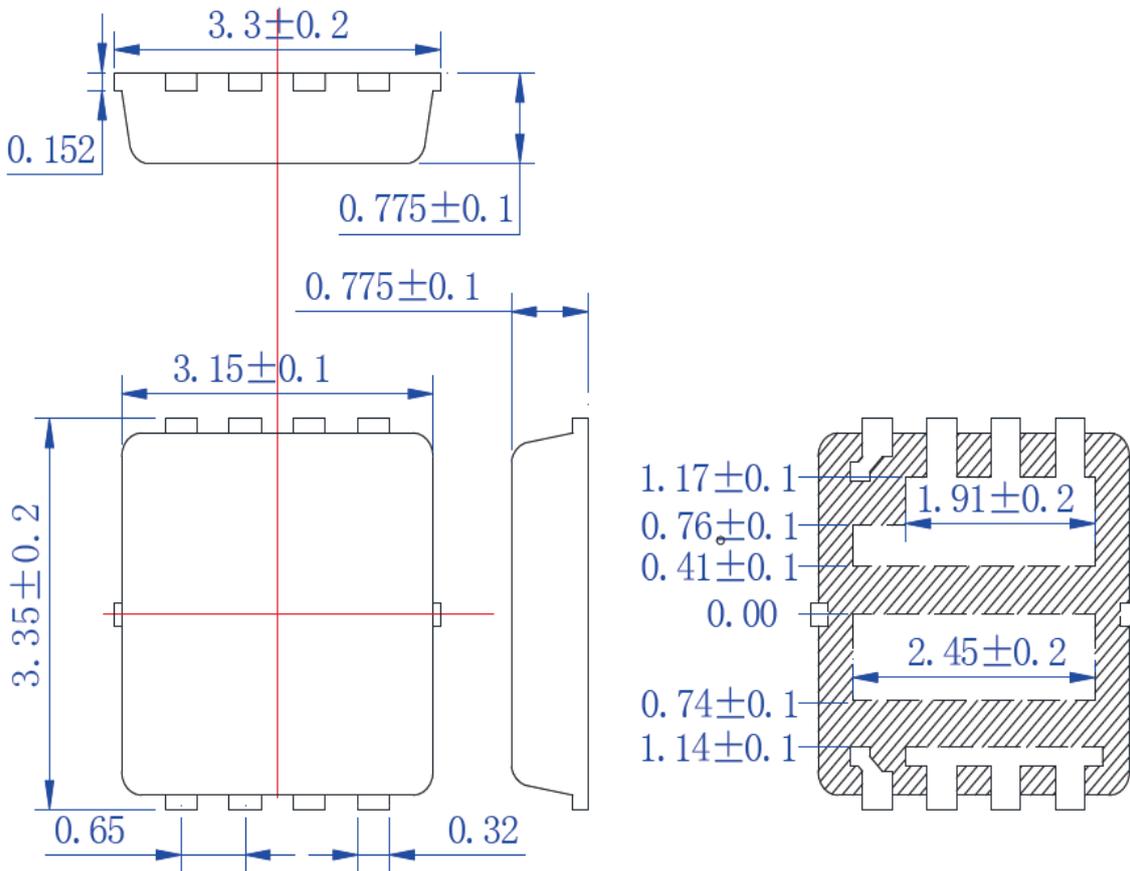


Switching Time Test Circuit and Waveforms



Outline Drawing

PDFN3.3x3.3



Dimensions in inches and (millimeters)

Rev.A

Ordering Information:

Device PN	Packing
SSPRV30N03A -T ⁽¹⁾ H ⁽²⁾ -WS ⁽³⁾	Tape&Reel: 3 Kpcs/Reel

Note: (1) Packing code, Tape & Reel Packing

(2) Halogen free product for packing code suffix "H"

(3) WS : Willas brand abbreviation, Label Type does not display

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