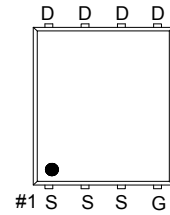
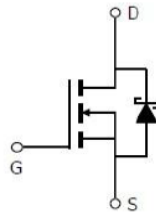


PRODUCT SUMMARY

$V_{(BR)DSS}$	$R_{DS(ON)}$	I_D
30V	2.4m Ω	95A



ABSOLUTE MAXIMUM RATINGS ($T_A = 25\text{ }^{\circ}\text{C}$ Unless Otherwise Noted)

PARAMETERS/TEST CONDITIONS		SYMBOL	LIMITS	UNITS
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current ³	$T_C = 25\text{ }^{\circ}\text{C}$	I_D	95	A
	$T_C = 100\text{ }^{\circ}\text{C}$		40	
Pulsed Drain Current ¹		I_{DM}	150	
Continuous Drain Current	$T_A = 25\text{ }^{\circ}\text{C}$	I_D	26	
	$T_A = 70\text{ }^{\circ}\text{C}$		21	
Avalanche Current		I_{AS}	51	
Avalanche Energy	$L = 0.1\text{mH}$	E_{AS}	129	mJ
Power Dissipation	$T_C = 25\text{ }^{\circ}\text{C}$	P_D	39	W
	$T_C = 100\text{ }^{\circ}\text{C}$		15.6	
Power Dissipation	$T_A = 25\text{ }^{\circ}\text{C}$	P_D	3	W
	$T_A = 70\text{ }^{\circ}\text{C}$		2	
Operating Junction & Storage Temperature Range		T_j, T_{stg}	-55 to 150	$^{\circ}\text{C}$

THERMAL RESISTANCE RATINGS

THERMAL RESISTANCE	SYMBOL	TYPICAL	MAXIMUM	UNITS
Junction-to-Ambient ²	$R_{\theta JA}$		40	$^{\circ}\text{C} / \text{W}$
Junction-to-Case	$R_{\theta JC}$		3.2	

¹Pulse width limited by maximum junction temperature.

²The value of $R_{\theta JA}$ is measured with the device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25^{\circ}\text{C}$.

³Package limitation current is 51A.

ELECTRICAL CHARACTERISTICS ($T_j = 25\text{ }^{\circ}\text{C}$, Unless Otherwise Noted)

PARAMETER	SYMBOL	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
STATIC						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 1mA$	30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.3	1.7	2.3	

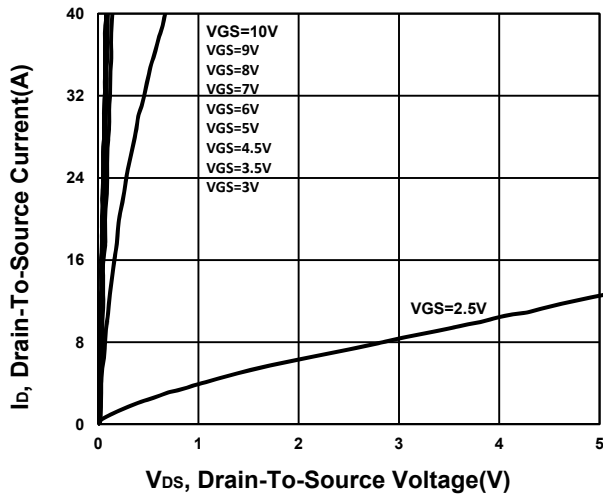
Gate-Body Leakage	I_{GSS}		$V_{DS} = 0V, V_{GS} = \pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}		$V_{DS} = 24V, V_{GS} = 0V$			0.3	mA
			$V_{DS} = 20V, V_{GS} = 0V, T_J = 55\text{ }^{\circ}C$			30	
Drain-Source On-State Resistance ¹	$R_{DS(ON)}$		$V_{GS} = 4.5V, I_D = 16A$		2.3	3	m Ω
			$V_{GS} = 10V, I_D = 20A$		1.9	2.4	
Forward Transconductance ¹	g_{fs}		$V_{DS} = 5V, I_D = 20A$		80		S
DYNAMIC							
Input Capacitance	C_{iss}		$V_{GS} = 0V, V_{DS} = 15V, f = 1MHz$		3200		pF
Output Capacitance	C_{oss}				596		
Reverse Transfer Capacitance	C_{rss}				350		
Gate Resistance	R_g		$V_{GS} = 0V, V_{DS} = 0V, f = 1MHz$		1.4		Ω
Total Gate Charge ²	Q_g	$V_{GS} = 10V$	$V_{DS} = 15V, I_D = 20A$		63.7		nC
		$V_{GS} = 4.5V$			33.2		
Gate-Source Charge ²	Q_{gs}				8		
Gate-Drain Charge ²	Q_{gd}				16		
Turn-On Delay Time ²	$t_{d(on)}$			$V_{DS} = 15V,$ $I_D \cong 20A, V_{GS} = 10V, R_{GEN} = 6\Omega$		30	
Rise Time ²	t_r				16		
Turn-Off Delay Time ²	$t_{d(off)}$				60		
Fall Time ²	t_f				10		
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_J = 25\text{ }^{\circ}C$)							
Continuous Current ³	I_S					65	A
Forward Voltage ¹	V_{SD}		$I_F = 1A, V_{GS} = 0V$			0.6	V
Reverse Recovery Time	t_{rr}		$I_F = 20A, dI_F/dt = 100A / \mu S$		29		nS
Reverse Recovery Charge	Q_{rr}				13		nC

¹Pulse test : Pulse Width $\leq 300 \mu sec$, Duty Cycle $\leq 2\%$.

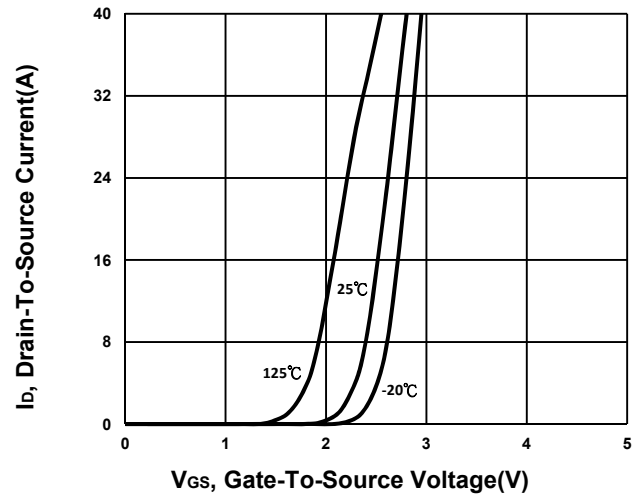
²Independent of operating temperature.

³Package limitation current is 51A.

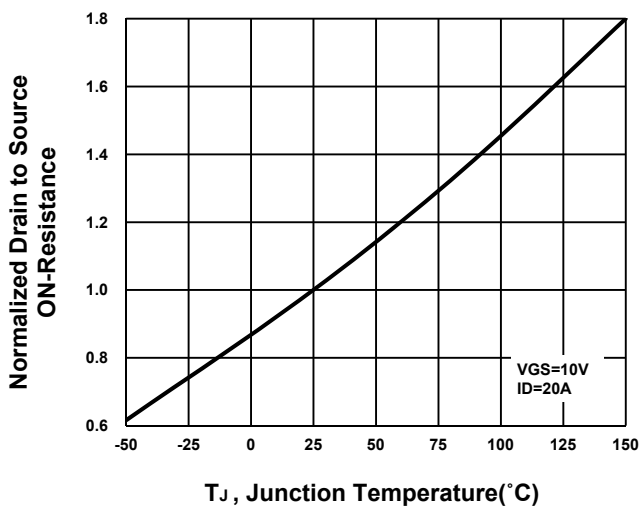
Output Characteristics



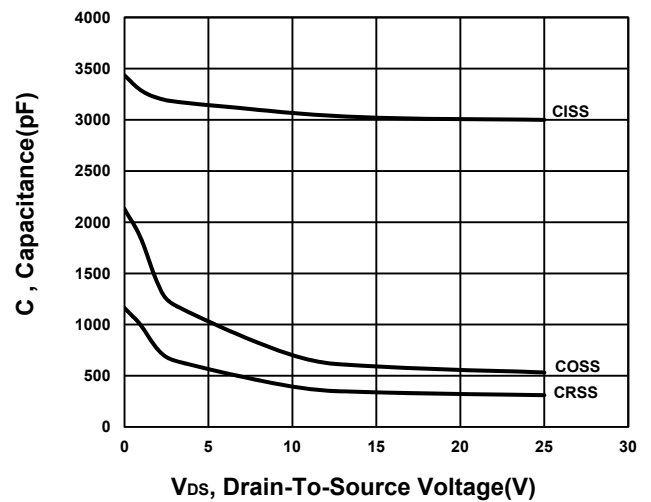
Transfer Characteristics



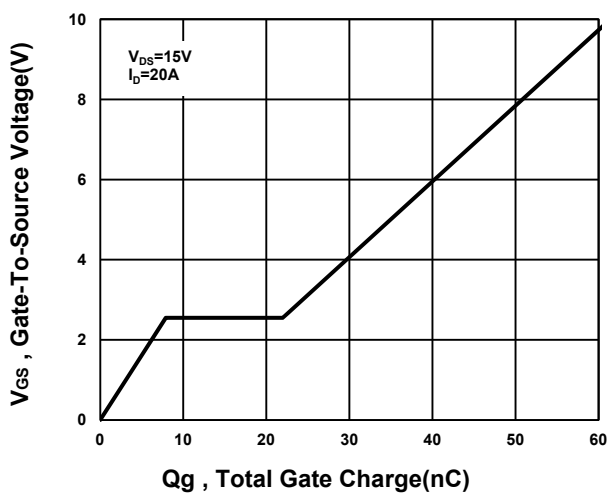
On-Resistance VS Temperature



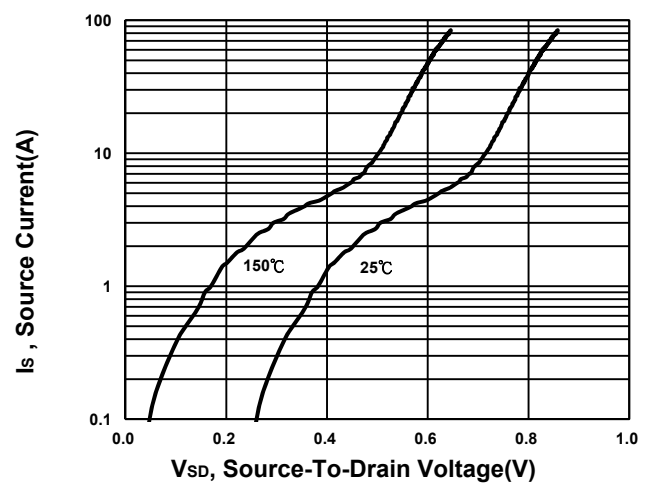
Capacitance Characteristic



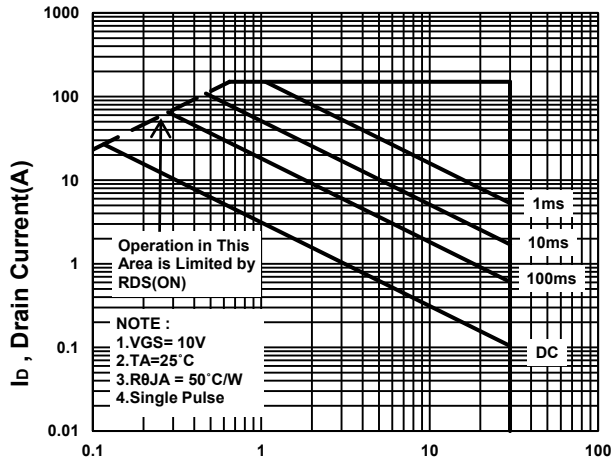
Gate charge Characteristics



Source-Drain Diode Forward Voltage

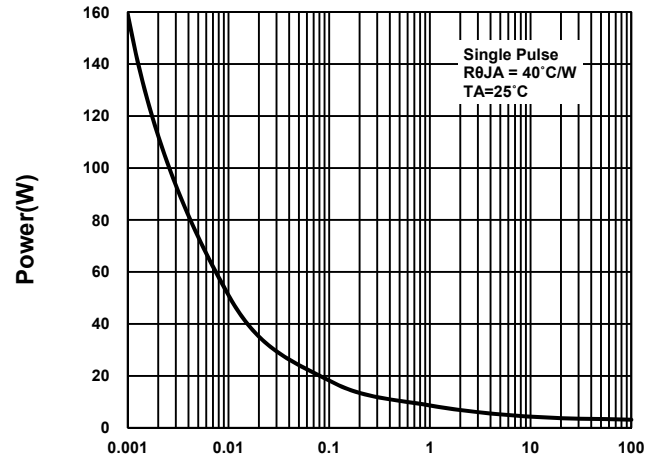


Safe Operating Area



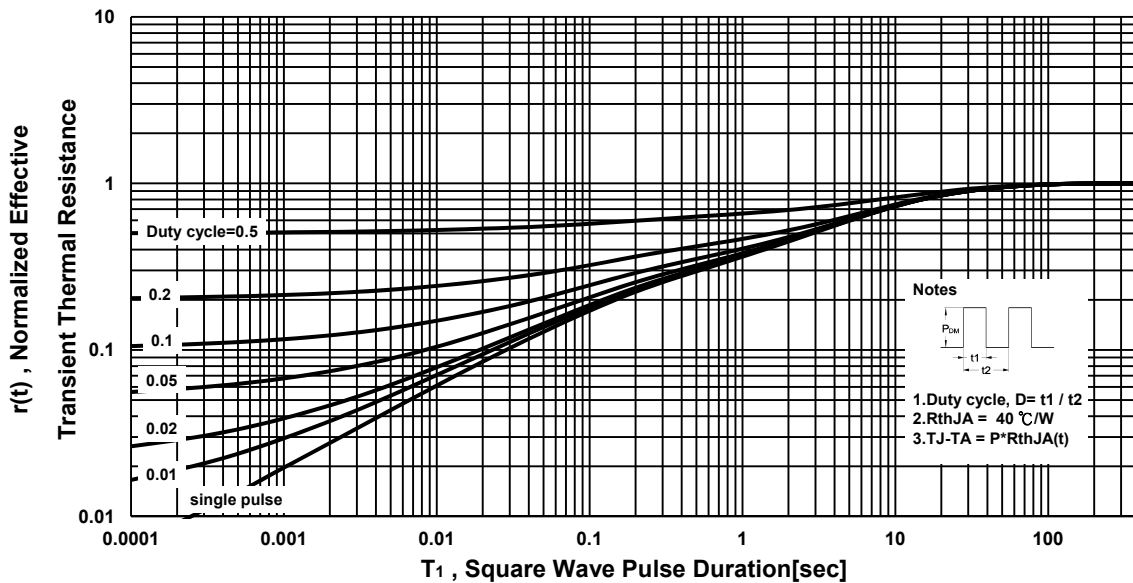
V_{DS} , Drain-To-Source Voltage(V)

Single Pulse Maximum Power Dissipation



Single Pulse Time(s)

Transient Thermal Response Curve



Package Dimension

PDFN 5x6P MECHANICAL DATA

Dimension	mm			Dimension	mm		
	Min.	Typ.	Max.		Min.	Typ.	Max.
A	4.8		5.15	J	3.34		3.9
B	5.42		5.9	K	0.9		
C	5.9		6.35	L	0.38		0.711
D	0.3		0.51	M	0°		12°
E	1.17	1.27	1.37	N	4.8		5.4
F	0.8	1	1.2	O	0.05		0.36
G	0.15		0.35	P	0.05		0.25
H	3.67		4.31	S	3.73		4.19
I	0.38		0.71				

