■ FEATURES:

- ADVANCED TRENCH MOSFET PROCESS TECHNOLOGY
- SPECIAL DESIGNED FOR PWM,LOAD SWITCHING AND GENERAL PURPOSE APPLICATIONS
- ULTRA LOW NO-RESISTANCE WITH LOW GATE CHARGE
- FAST SWITCHING AND REVERSE BODY RECOVERY
- 175℃ OPERATING TEMPERATURE

■ DESCRIPTION

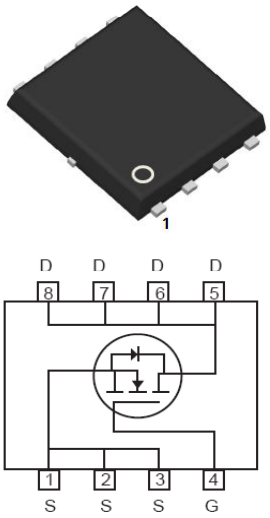
It utilizes the latest trench processing techniques to achieve the high cell density and reduces the on-resistance with high repetitive avalanche rating.These features combine to make this design an extremelyeffcient and reliable device for use in power switching application and a wide variety of other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

■ MAXIMUM RATINGS (Tc=25℃)

PARAMETER	SYMBOL	VALUE	UNIT
Drain-source Voltage	VDS	40	V
gate-source Voltage	VGS	±20	V
Continuous Drain Current(TC=25℃)	ID	60	A
Drain Current-Pulsed	IDM	450	A
Total Dissipation	PD	115	W
Junction Temperature	Tj	150	℃
Storage Temperature	Tstg	-55-150	℃
Single Pulse Avalanche Energy (L=0.4mH)	EAS	325	mJ

■ MECHANICAL

DFN5x6



■ ELECTRONIC CHARACTERISTICS (Tc=25℃)

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Drain-source Breakdown Voltage	BVDSS	VGS=0V, ID=250μA	40		V
Gate Threshold Voltage	VGS(TH)	VGS=VDS ,ID=250μA	2	4	V
Drain-source Leakage Current	IDSS	VDS=40V,VGS=0V		1	uA
Drain-Source Diode Forward Voltage	VSD	VGS=0V, IS=20A		1.2	V
Gate-body Leakage Current(VDS=0)	IGSS	VGS=±20V		±100	nA
Static Drain-source On Resistance	RDS(ON)	VGS=4.5V, ID=20A		3	mΩ
		VGS=10V, ID=20A		2.2	
Thermal Resistance Junction-case	RthJ-C			1.3	℃/W

■ DYNAMIC CHARACTERISTICS (Tc=25℃)

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Input Capacitance	Ciss	VgsAcFreq=1.0Mhz, VdsDc=35V	-	4450	-	pF
output Capacitance	Coss		-	1850	-	pF
Reverse Transfer Capacitance	Crss		-	125	-	pF
Gate resistance	RG	VgsDCBias=0V, Speed=MED	-	2	-	Ω

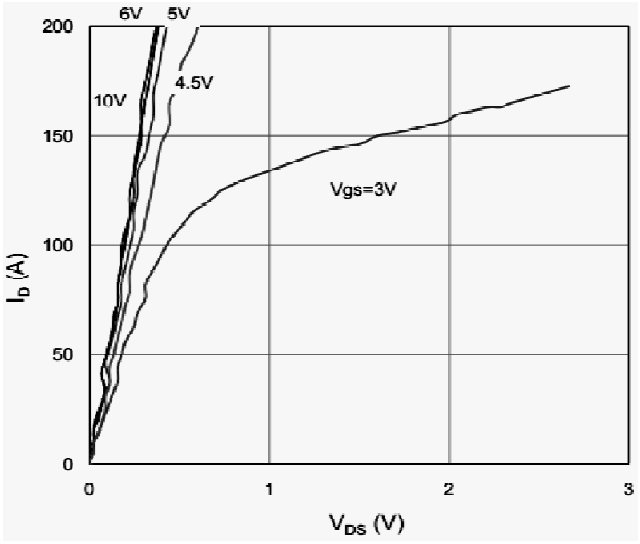
■ SWITCHING CHARACTERISTICS (Tc=25℃)

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Turn-On Delay Time	td(on)	VDD=20V, ID=20A, VGS=10V, RG=10Ω	-	16	-	ns
Turn-On Rise Time	tr		-	12	-	ns
Turn-Off Delay Time	td(off)		-	60	-	ns
Turn-Off Rise Time	tf		-	18	-	ns
Total Gate Charge	Qg(4.5V)	VDS=20V, ID=20A, VGS=10V	-	35	-	nC
	Qg		-	70	-	nC
Gate-Source Charge	Qgs		-	12	-	nC
Gate-Drain Charge	Qgd		-	10	-	nC

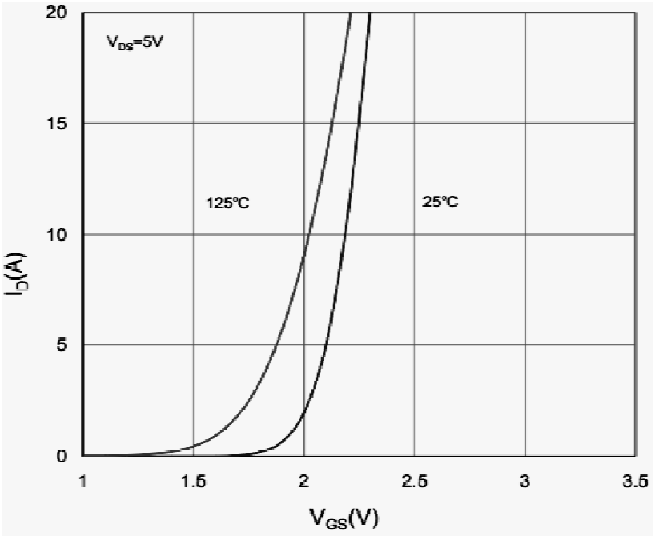
■ DRAIN-SOURCE DIODE MAXIMUM RATINGS AND CHARACTERISTICS (Tc=25℃)

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Diode Forward Voltage	VSD	VGS=0V, IS=20A	-	-	1.2	V
Reverse Recovery Time	trr	VR=30V, IF=20A, di/dt=200A/μs	-	40	-	ns
Reverse Recovery Charge	Qrr		-	60	-	nC

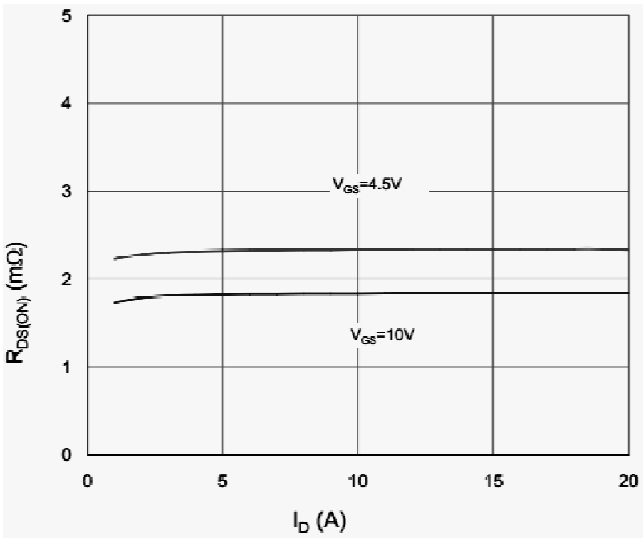
CHARACTERISTICS CURVE



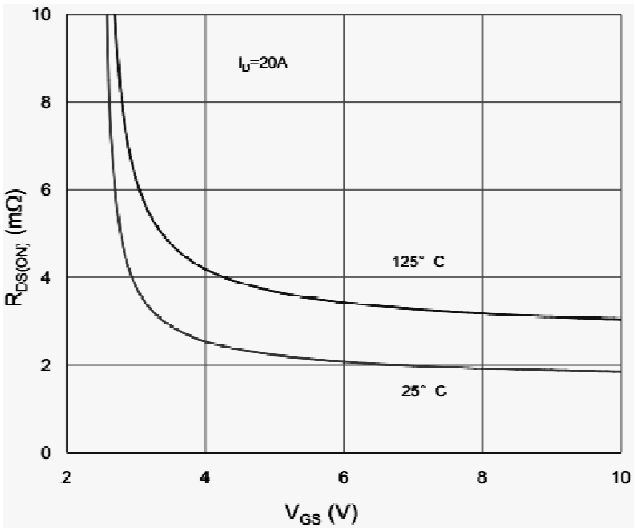
Output Characteritsics



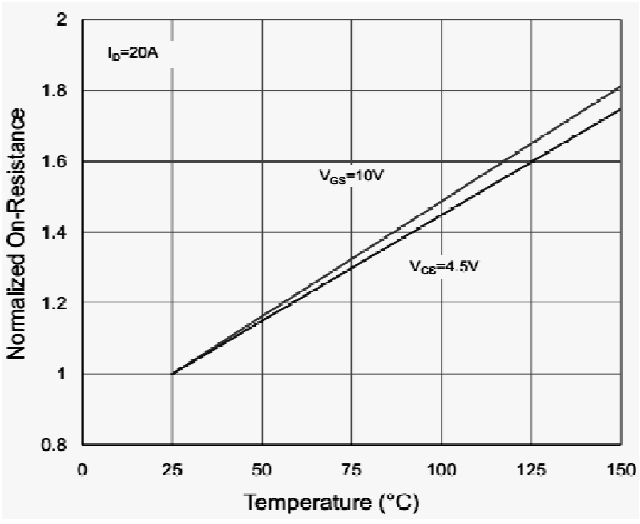
Transfer Characteritsics



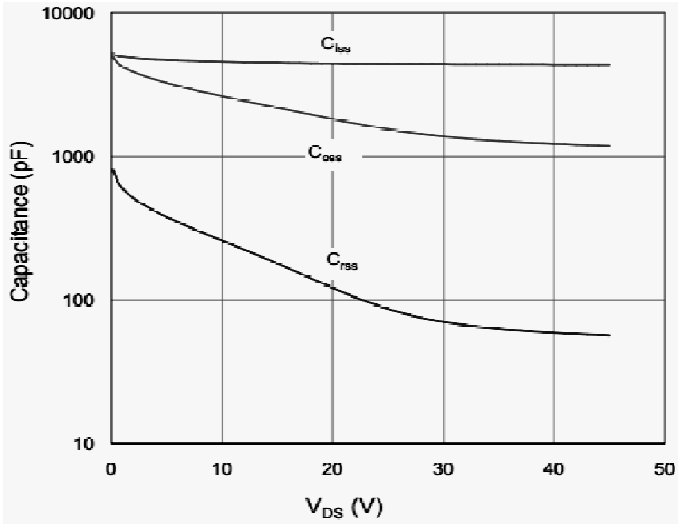
On Resistance Vs Drain Current



On Resistance Vs Gate Source Voltage

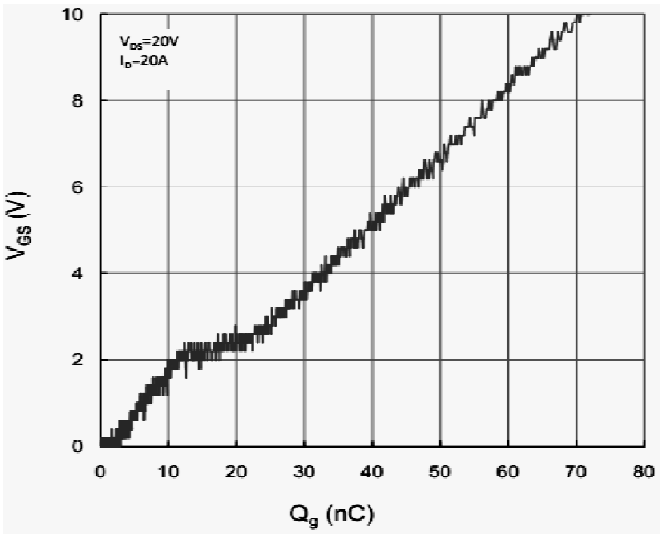


Rdson-JunctionTemperature

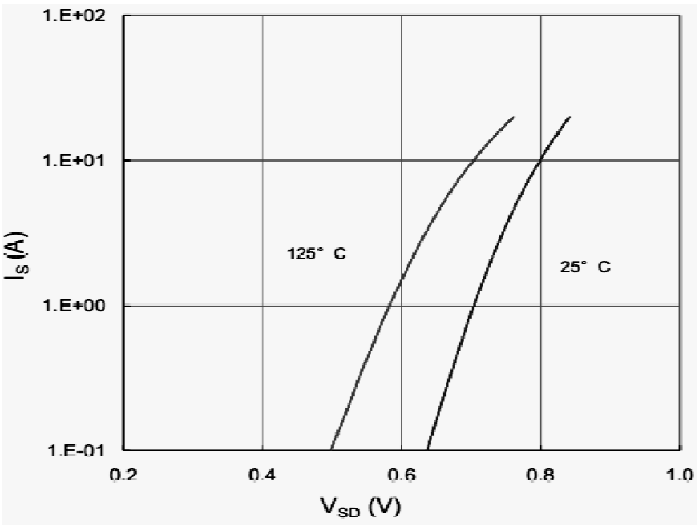


Capacitance

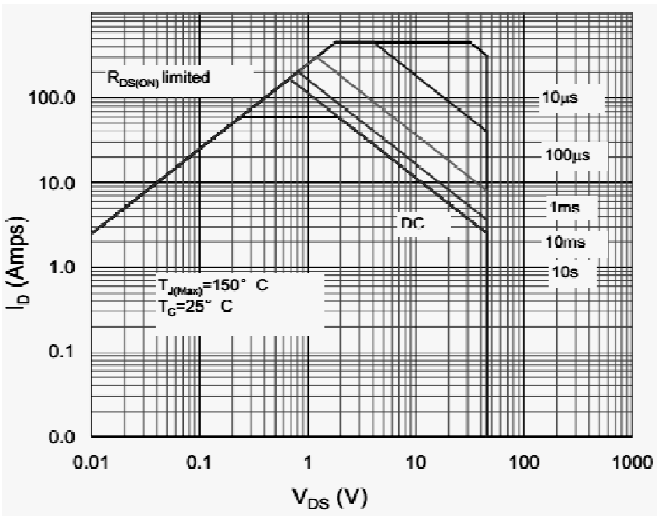
CHARACTERISTICS CURVE



Gate Charge Waveform



Source-Drain Diode Forward Voltage



Maximum Safe Operating Area

DFN5X6-8L MECHANICAL DATA

UNIT：mm

SYMBOL	MIN	NOM	MAX	SYMBOL	MIN	NOM	MAX
A	0.90		1.10	k	1.15		1.35
A3	0.15		0.30	b	0.20		0.40
D	4.90		5.10	e	1.15		1.35
D1	3.90		4.10	L	0.50		0.65
D2	4.75		5.05	L1	0.43		0.55
E	5.85		6.15	H	0.55		0.68
E1	3.35		3.55	θ	8°		12°
E2	5.55		5.85