■ 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
- 150℃ OPERATING TEMPERATURE

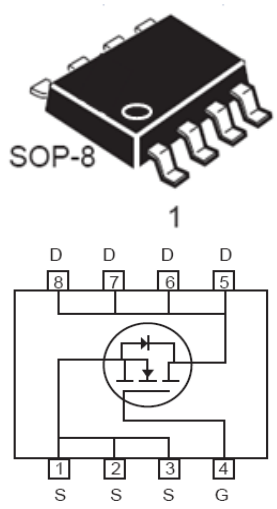
■ DESCRIPTION

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	100	V
gate-source Voltage	VGS	±20	V
Continuous Drain Current(TC=25℃)	ID	12	A
Drain Current-Pulsed	IDM	60	A
Total Dissipation	PD	3	W
Junction Temperature	Tj	150	℃
Storage Temperature	Tstg	-55-150	℃
Single Pulse Avalanche Energy (L=0.3mH)	EAS	32	mJ

■ MECHANICAL



■ ELECTRONIC CHARACTERISTICS (Tc=25℃)

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Drain-source Breakdown Voltage	BVDSS	VGS=0V, ID=250μA	100		V
Gate Threshold Voltage	VGS(TH)	VGS=VDS ,ID=250μA	1.3	2.5	V
Drain-source Leakage Current	IDSS	VDS=100V,VGS=0V		1	uA
Drain-Source Diode Forward Voltage	VSD	VGS=0V, IS=10A		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=10A		15.3	mΩ
		VGS=10V,ID=12A		12.2	mΩ
Thermal Resistance Junction-case	RthJ-A			42	℃/W

■ DYNAMIC CHARACTERISTICS (Tc=25℃)

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Input Capacitance	Ciss	VDS=35V, VGS=0V, f=1.0MHZ	-	2380	2900	pF
output Capacitance	Coss		-	-	205	pF
Reverse Transfer Capacitance	Crss		-	-	10	pF
Gate resistance	RG	VgsDCBias=0V, Speed=MED	-	1.6	4	Ω

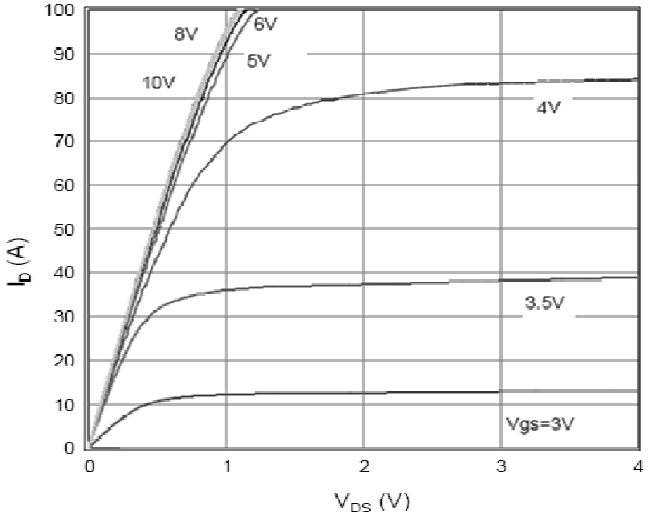
■ SWITCHING CHARACTERISTICS (Tc=25℃)

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Turn-On Delay Time	td(on)	VDS=50V, ID=12A, VGS=10V, RG=10Ω	-	8	-	ns
Turn-On Rise Time	tr		-	3	-	ns
Turn-Off Delay Time	td(off)		-	25	-	ns
Turn-Off Rise Time	tf		-	4	-	ns
Total Gate Charge	Qg(4.5V)	VDS=50V, ID=12A, VGS=10V	-	15	-	nC
Total Gate Charge	Qg		-	30	-	nC
Gate-Source Charge	Qgs		-	5	-	nC
Gate-Drain Charge	Qgd		-	5	-	nC

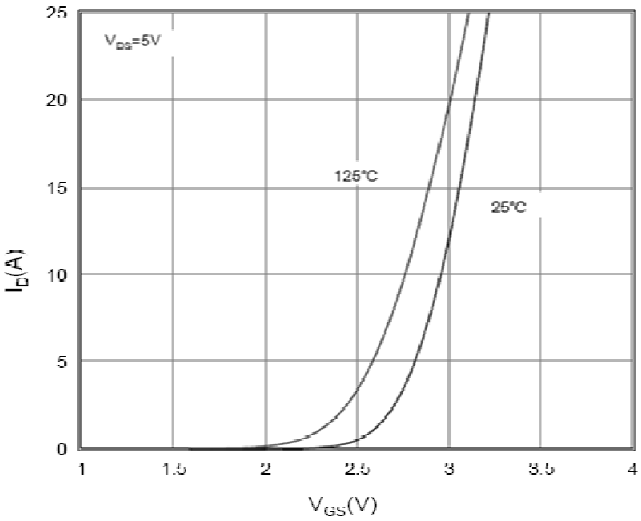
■ DRAIN-SOURCE DIODE MAXIMUM RATINGS AND CHARACTERISTICS (Tc=25℃)

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Diode Forward Voltage	VSD	VGS=0V, IS=10A	-	-	1.2	V
Reverse Recovery Time	trr	VR=50V, IS=12A, dIF/dt=500A/μs	-	35	-	ns
Reverse Recovery Charge	Qrr		-	155	-	nC

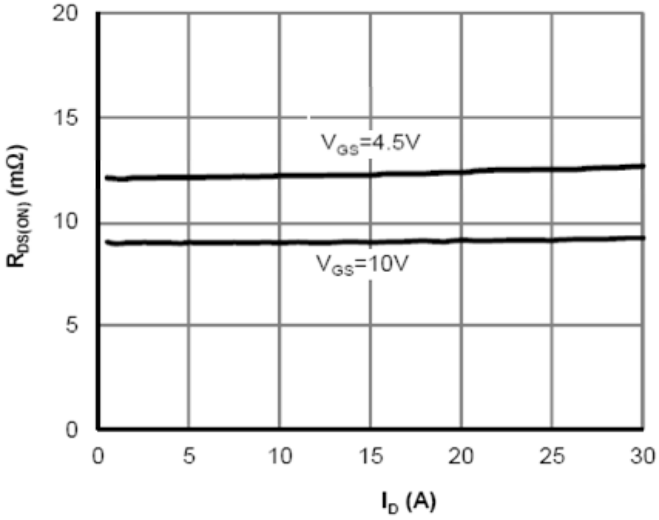
CHARACTERISTICS CURVE



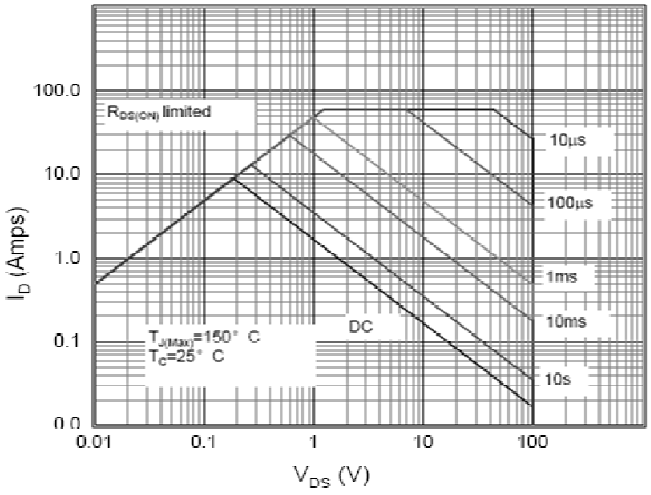
Output Characteritsics



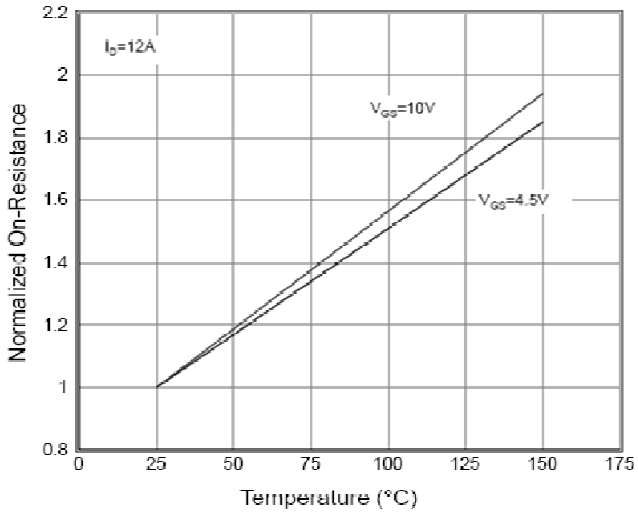
Transfer Characteritsics



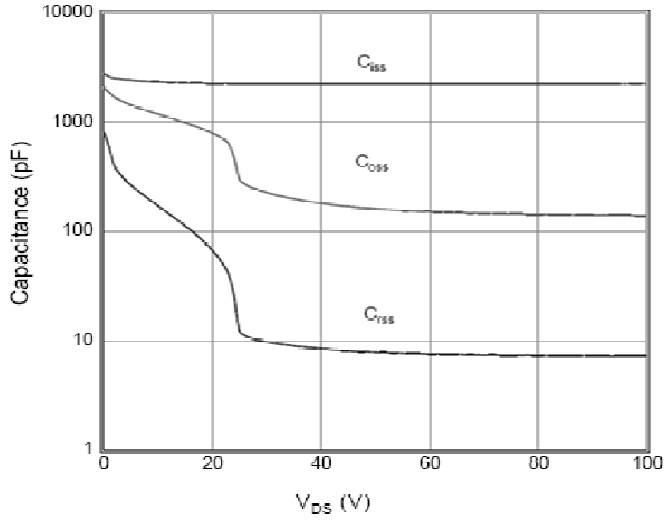
On Resistance Vs Drain Current



Safe Operating Area

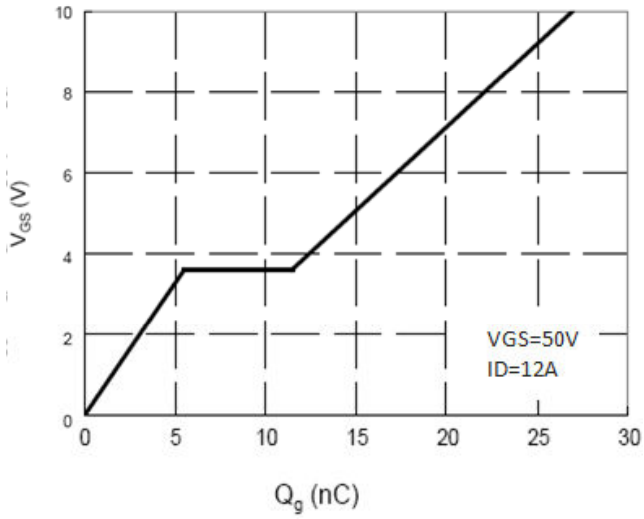


Rdson-JunctionTemperature

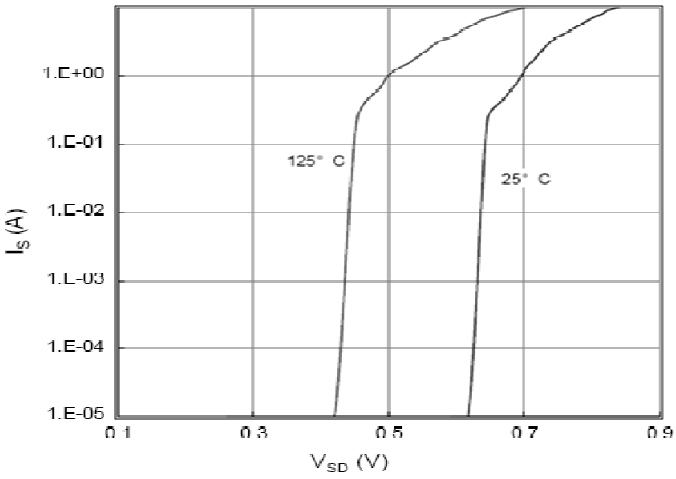


Capacitance

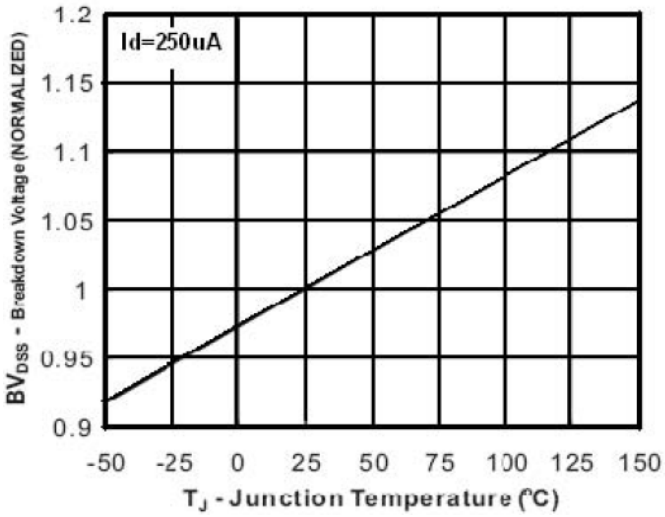
CHARACTERISTICS CURVE



Gate Charge Waveform



Source-Drain Diode Forward Voltage



Breakdown Voltage Vs Junction Temperature

SOP-8 MECHANICAL DATA

UNIT: mm

SYMBOL	MIN	NOM	MAX	SYMBOL	MIN	NOM	MAX
A	1.35		1.75	E	3.80		4.00
A1	0.10		0.25	E1	5.80		6.20
A2	1.35		1.55	e		1.27	
b	0.33		0.51	L	0.40		1.27
c	0.17		0.25	θ	0°		8°
D	4.70		5.10