

DESCRIPTION

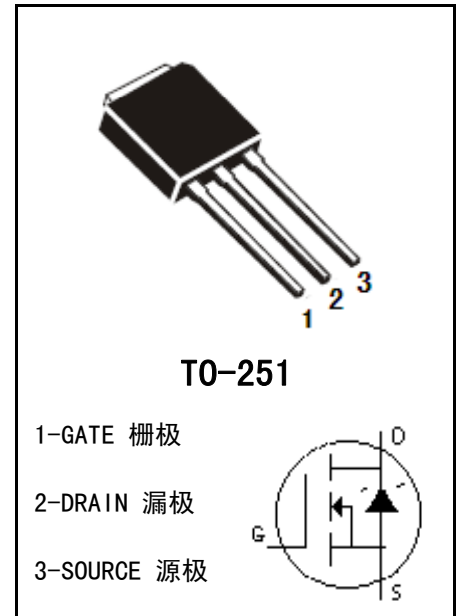
- ELECTRONIC BALLAST
- ELECTRONIC TRANSFORMER
- SWITCH MODE POWER SUPPLY

FEATURES:

- LOW THERMAL RESISTANCE
- HIGH INPUT RESISTANCE
- FAST SWITCHING
- ROHS COMPLIANT

MAXIMUM RATINGS (T_c=25°C)

PARAMETER	SYMBOL	VALUE	UNIT
Drain-source Voltage	V _{DS}	650	V
gate-source Voltage	V _{GS}	±30	V
Continuous Drain Current (T _C =25°C)	I _D	2	A
Drain Current-Pulsed	I _{DM}	8	A
Total Dissipation	P _D	45	W
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55-150	°C
Single Pulse Avalanche Energy	E _{AS}	130	mJ

MECHANICAL

ELECTRONIC CHARACTERISTICS (T_c=25°C)

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Drain-source Breakdown Voltage	B _V D _{SS}	V _{GS} =0V, I _D =250 μA	650		V
Gate Threshold Voltage	V _{GS} (TH)	V _{GS} =V _{DS} , I _D =250 μA	2	4	V
Drain-source Leakage Current	I _{DSS}	V _{DS} =650V, V _{GS} =0V		25	μA
Drain-Source Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _S =2A		1.4	V
Gate-body Leakage Current (V _{DS} = 0)	I _{GSS}	V _{GS} =±30V		±100	nA
Forward Transconductance	g _{fs}	V _{ds} =10V I _d =1A	0.8		S
Static Drain-source On Resistance	R _{DS} (ON)	V _{GS} =10V, I _D =1A		5.5	Ω
Thermal Resistance Junction-case	R _{thJ-c}			4.5	°C/W

■ DYNAMIC CHARACTERISTICS (T_c=25°C)

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Input Capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, f=1.0MHz	-	311	-	pF
output Capacitance	C _{oss}		-	40	50	pF
Reverse Transfer Capacitance	C _{rss}		-	5	7	pF

■ SWITCHING CHARACTERISTICS (T_c=25°C)

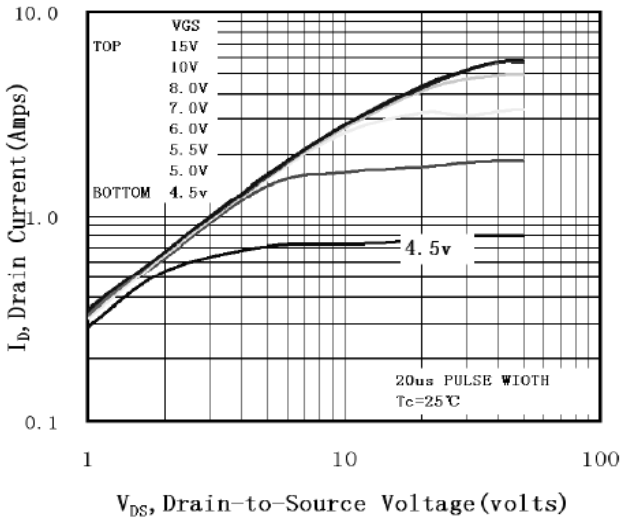
CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Turn-On Delay Time	t _{d(on)}	V _{DD} =325V, I _D =2.0A, R _G =25Ω	-	10	30	ns
Turn-On Rise Time	t _r		-	25	60	ns
Turn-Off Delay Time	t _{d(off)}		-	24	50	ns
Turn-Off Rise Time	t _f		-	25	60	ns
Total Gate Charge	Q _g	V _{DS} =520V, I _D =2.0A, V _{GS} =10V	-	9	11	nC
Gate-Source Charge	Q _{gs}		-	1.6	-	nC
Gate-Drain Charge	Q _{gd}		-	4.3	-	nC

■ DRAIN-SOURCE DIODE MAXIMUM RATINGS AND CHARACTERISTICS (T_c=25°C)

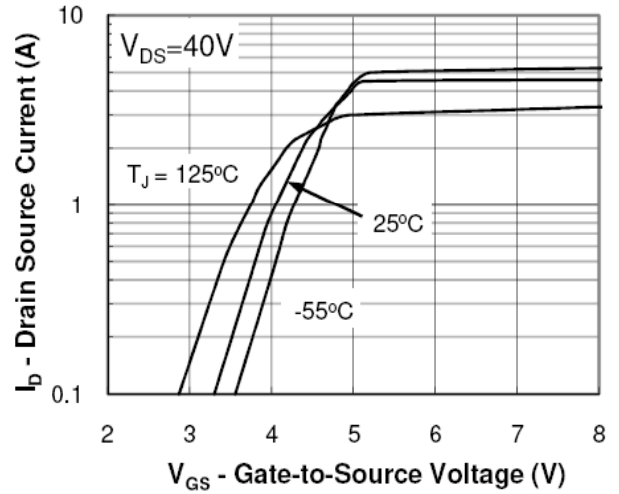
CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Max. Diode Forward Current	I _s		-	-	2	A
Max. Pulsed Forward Current	I _{SM}		-	-	8	A
Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _S =2.0A	-	-	1.4	V
Reverse Recovery Time	t _{rr}	V _{GS} =0V, I _S =2.0A, dI _F /dt=100A/μs	-	368	-	ns
Reverse Recovery Charge	Q _{rr}		-	1	-	μC



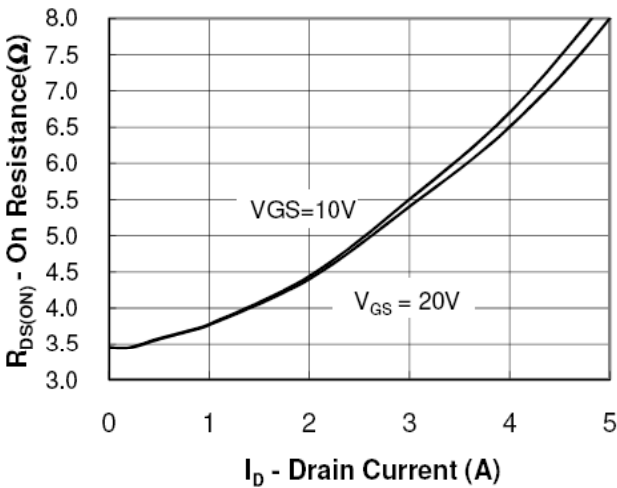
CHARACTERISTICS CURVE



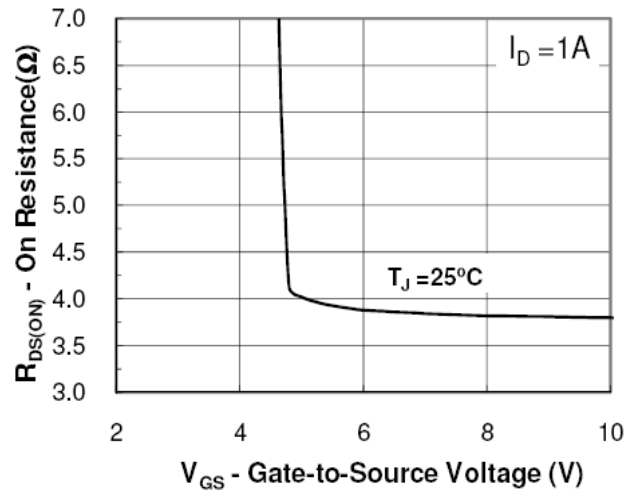
Output Characteristic



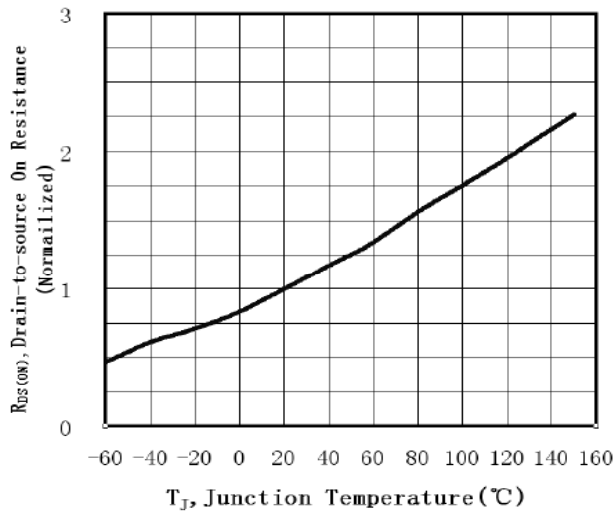
Transfer Characteristic



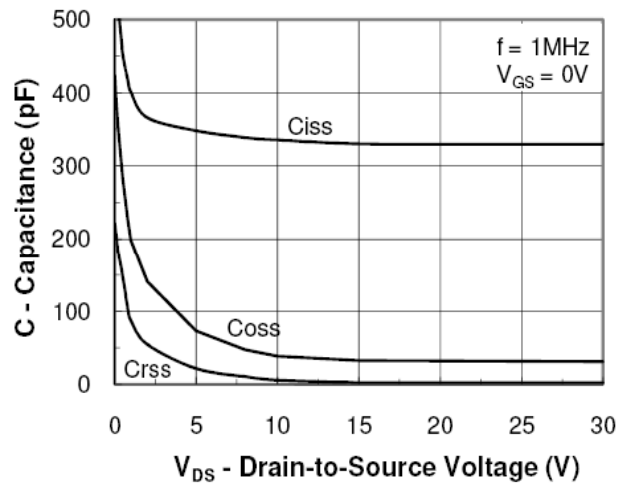
On Resistance Vs Drain Current



On Resistance Vs Gate Source Voltage



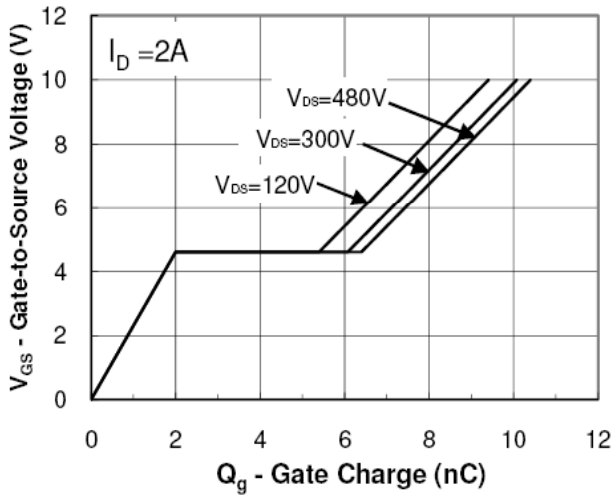
On Resistance Vs Junction Temperature



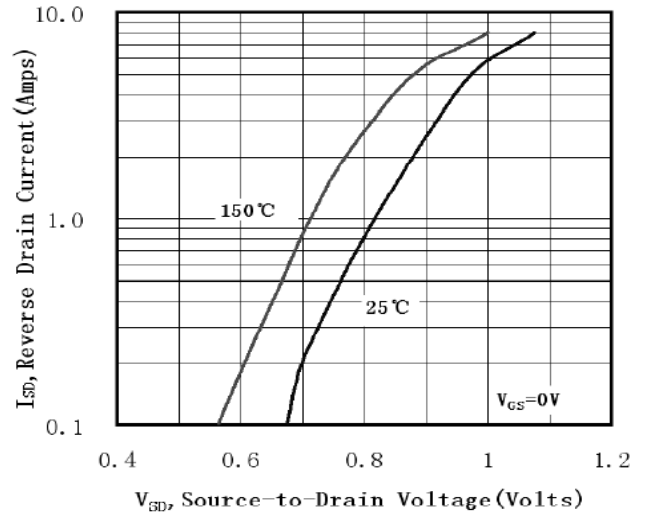
Capacitance



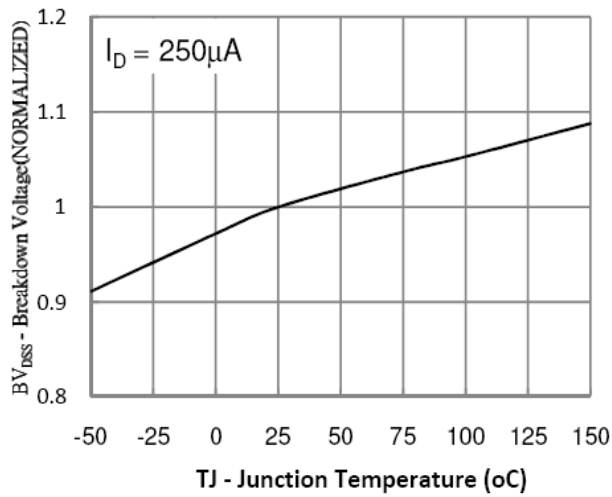
CHARACTERISTICS CURVE



Gate Charge Waveform



Source-Drain Diode Forward Voltage



Breakdown Voltage Vs Junction Temperature

TO-251 MECHANICAL DATA

UNIT: mm

SYMBOL	MIN	NOM	MAX	SYMBOL	MIN	NOM	MAX
A	2.10		2.50	D1	5.10		5.50
A1	0.95		1.30	E	5.80		6.30
B	0.80		1.25	e	2.25	2.30	2.35
b	0.50		0.80	L	7.70		8.50
b1	0.70		0.90	L1	1.45		1.95
C	0.45		0.60	R		0.30	
C1	0.45		0.60				
D	6.35		6.75				

