

DESCRIPTION

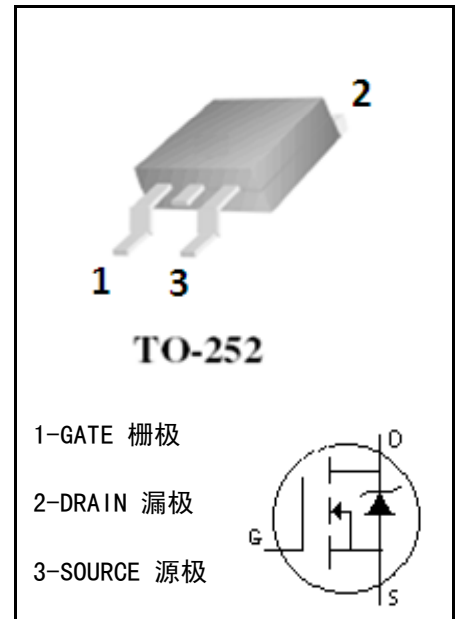
- ELECTRONIC BALLAST
- ELECTRONIC TRANSFORMER
- SWITCH MODE POWER SUPPLY

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}	600	V
gate-source Voltage	V _{GS}	±30	V
Continuous Drain Current (T _C =25°C)	I _D	4	A
Drain Current-Pulsed	I _{DM}	16	A
Total Dissipation	PD	50	W
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55-150	°C
Single Pulse Avalanche Energy	E _{AS}	128	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	600		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} =600V, V _{GS} =0V		25	uA
Drain-Source Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _S =4A		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 =2.0A	1		S
Static Drain-source On Resistance	R _{DS} (ON)	V _{GS} =10V, I _D =2.0A		2.5	Ω
Thermal Resistance Junction-case	R _{thJ-c}			2.5	°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	-	610	-	pF
output Capacitance	C _{oss}		-	70	90	pF
Reverse Transfer Capacitance	C _{rss}		-	8	11	pF

■ SWITCHING CHARACTERISTICS (T_c=25°C)

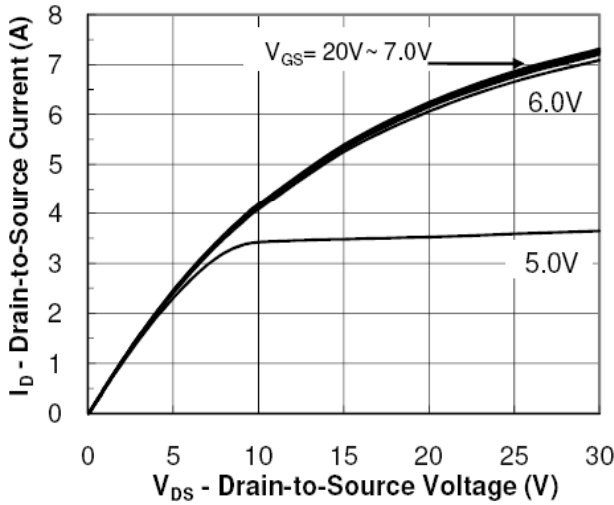
CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Turn-On Delay Time	t _{d(on)}	V _{DD} =300V, I _D =4.0A, R _G =25Ω	-	13	35	ns
Turn-On Rise Time	t _r		-	45	100	ns
Turn-Off Delay Time	t _{d(off)}		-	20	60	ns
Turn-Off Rise Time	t _f		-	35	80	ns
Total Gate Charge	Q _g	V _{DS} =480V, I _D =4.0A, V _{GS} =10V	-	13.3	-	nC
Gate-Source Charge	Q _{gs}		-	4.1	-	nC
Gate-Drain Charge	Q _{gd}		-	2.8	-	nC

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

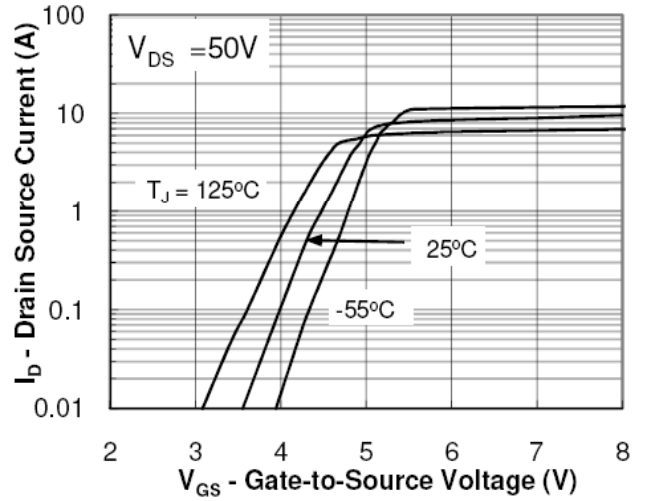
CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Max. Diode Forward Current	I _S		-	-	4	A
Max. Pulsed Forward Current	I _{SM}		-	-	16	A
Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _S =4.0A	-	-	1.4	V
Reverse Recovery Time	t _{rr}	V _{GS} =0V, I _S =4.0A, dI _F /dt=100A/μs	-	390	-	ns
Reverse Recovery Charge	Q _{rr}		-	1.5	-	μC



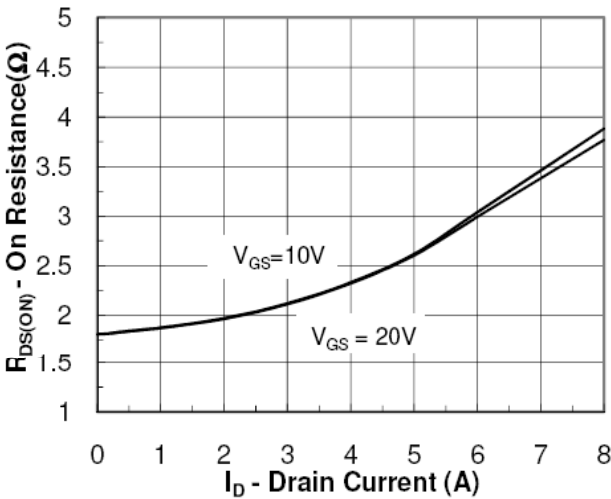
CHARACTERISTICS CURVE



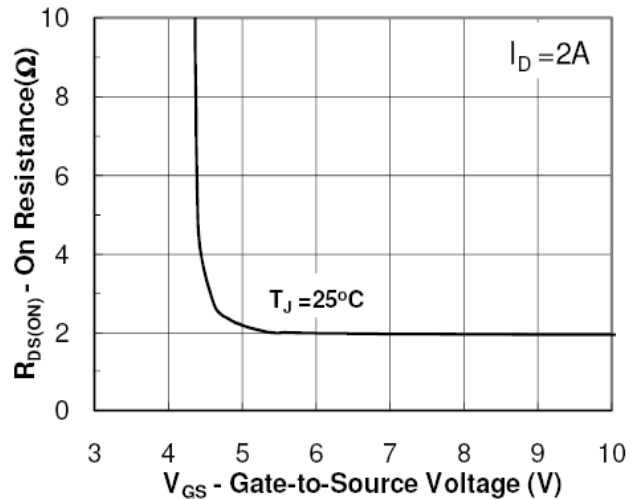
Output Characteristic



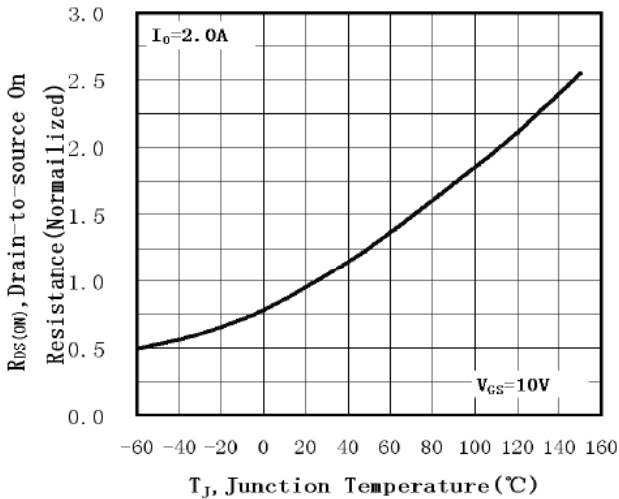
Transfer Characteristic



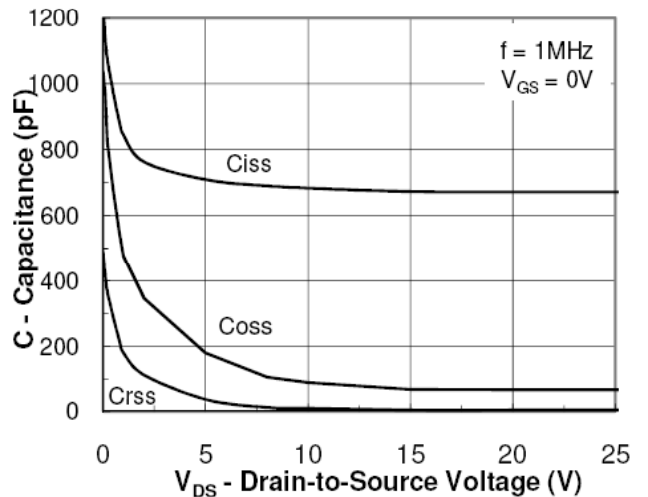
On Resistance Vs Drain Current



On Resistance Vs Gate Source Voltage



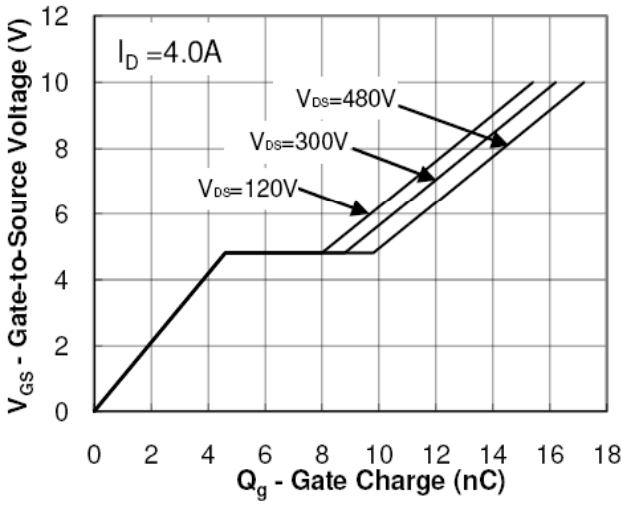
On Resistance Vs Junction Temperature



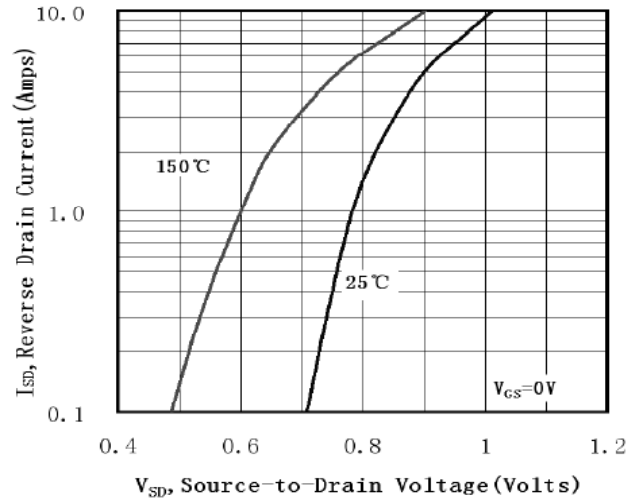
Capacitance



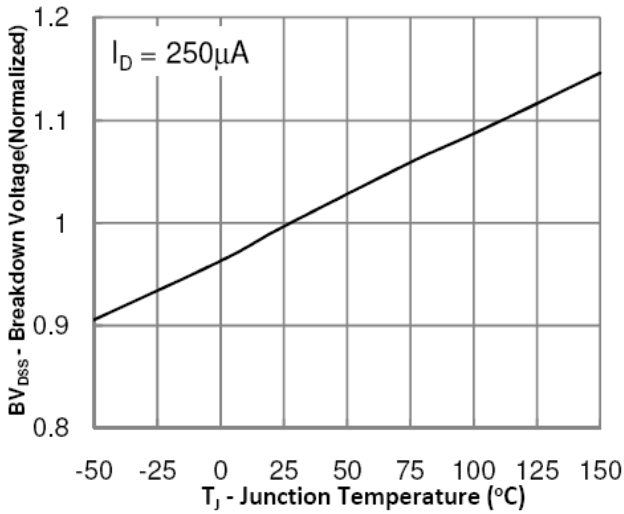
■ CHARACTERISTICS CURVE



Gate Charge Waveform



Source-Drain Diode Forward Voltage



Breakdown Voltage Vs Junction Temperature

TO-252 MECHANICAL DATA

UNIT: mm

SYMBOL	MIN	NOM	MAX	SYMBOL	MIN	NOM	MAX
A	2.10		2.50	E	5.80		6.30
B	0.80		1.25	e1	2.25	2.30	2.35
b	0.50		0.85	e2	4.45		4.75
b1	0.50		0.90	L1	9.50		10.20
b2	0.45		0.60	L2	0.90		1.45
C	0.45		0.60	L3	0.60		1.10
D	6.35		6.75	K	-0.1		0.10
D1	5.10		5.50				

