

**DESCRIPTION**

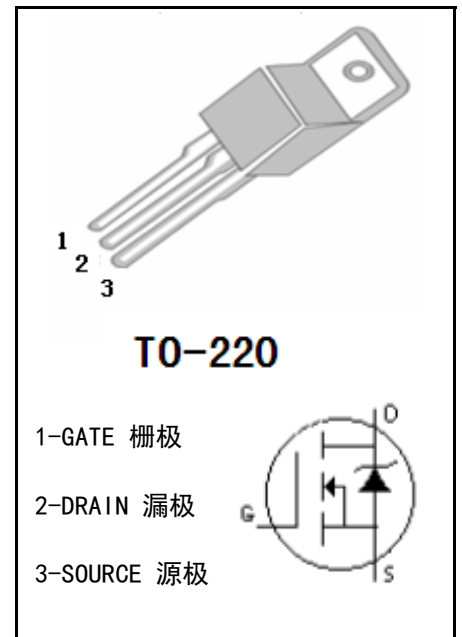
- ELECTRONIC BALLAST
- ELECTRONIC TRANSFORMER
- SWITCH MODE POWER SUPPLY

**FEATURES:**

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

**MAXIMUM RATINGS (T<sub>c</sub>=25°C)**

PARAMETER	SYMBOL	VALUE	UNIT
Drain-source Voltage	VDS	60	V
gate-source Voltage	VGS	±20	V
Continuous Drain Current	ID	80	A
Drain Current-Pulsed	IDM	190	A
Total Dissipation	PD	55	W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-55-150	°C
Single Pulse Avalanche Energy (L=0.5mH)	EAS	325	mJ

**MECHANICAL**

**ELECTRONIC CHARACTERISTICS (T<sub>c</sub>=25°C)**

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Drain-source Breakdown Voltage	BVDSS	VGS=0V, ID=250 μA	60		V
Gate Threshold Voltage	VGS (TH)	VGS=VDS, ID=250 μA	1.3	2.5	V
Drain-source Leakage Current	IDSS	VDS=60V, 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=10V, ID=20A		7	mΩ
Thermal Resistance Junction-case	RthJ-c			2.3	°C/W

■ DYNAMIC CHARACTERISTICS ( $T_c=25^{\circ}\text{C}$ )

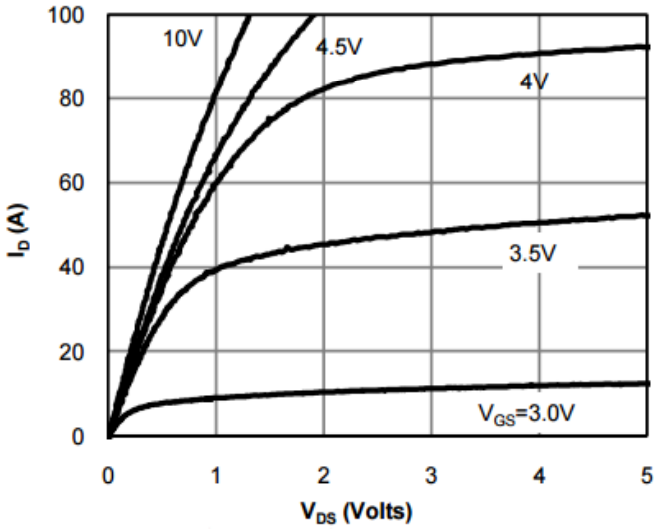
CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Input Capacitance	$C_{iss}$	VDS=35V, VGS=0V, f=1.0MHZ	-	3850	-	pF
output Capacitance	$C_{oss}$		-	268	-	pF
Reverse Transfer Capacitance	$C_{rss}$		-	180	-	pF
Gate resistance	RG	VDS=0V, VGS=0V, f=1.0MHZ	-	1.2	-	$\Omega$

■ SWITCHING CHARACTERISTICS ( $T_c=25^{\circ}\text{C}$ )

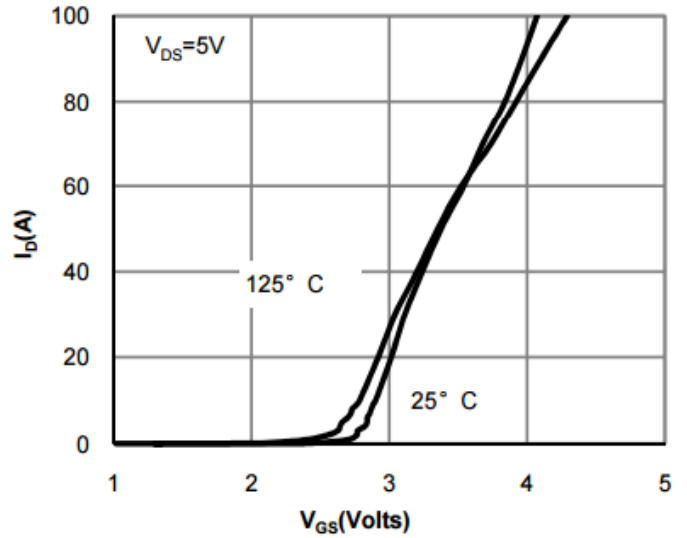
CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Total Gate Charge	$Q_g$	VDS=25V, ID=15A, VGS=10V	-	35	-	nC
Gate-Source Charge	$Q_{gs}$		-	12	-	nC
Gate-Drain Charge	$Q_{gd}$		-	14	-	nC



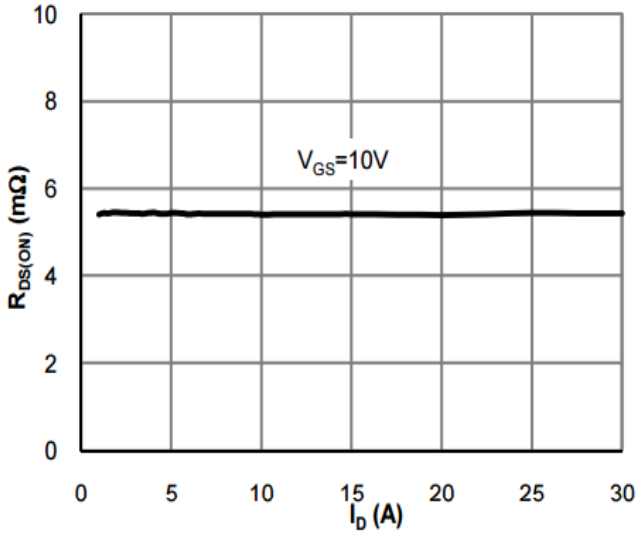
CHARACTERISTICS CURVE



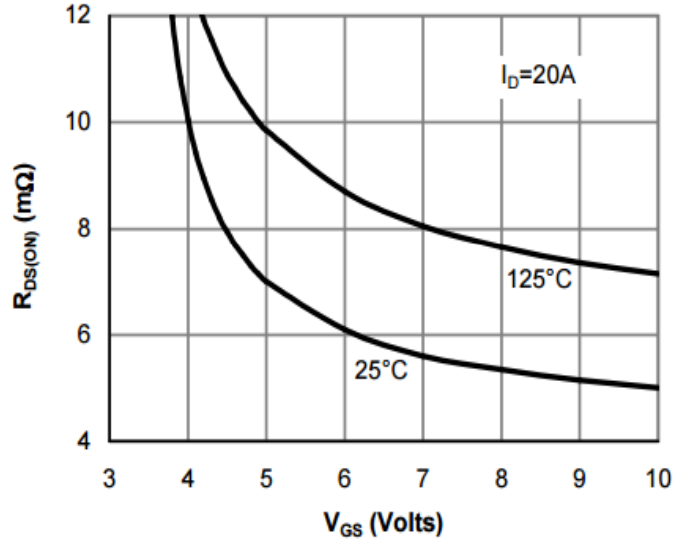
Output Characteristic



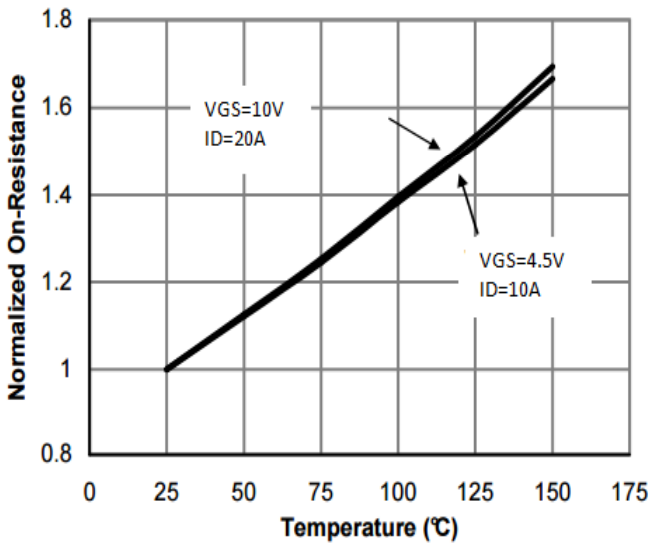
Transfer Characteristic



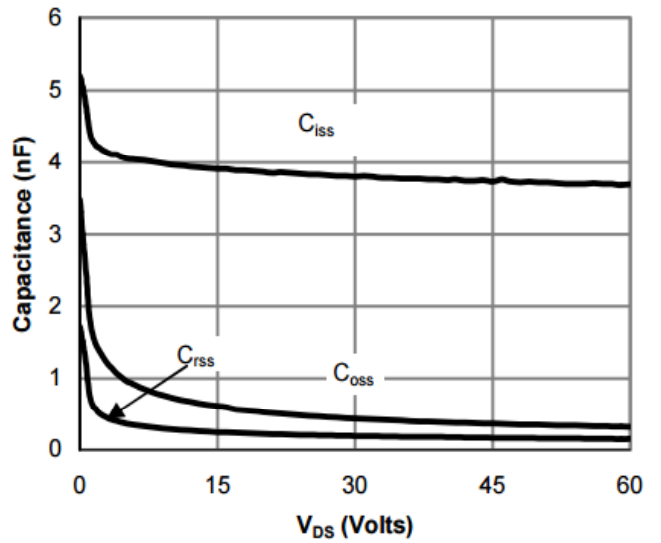
On Resistance Vs Drain Current



On-Resistance vs. Gate-Source Voltage

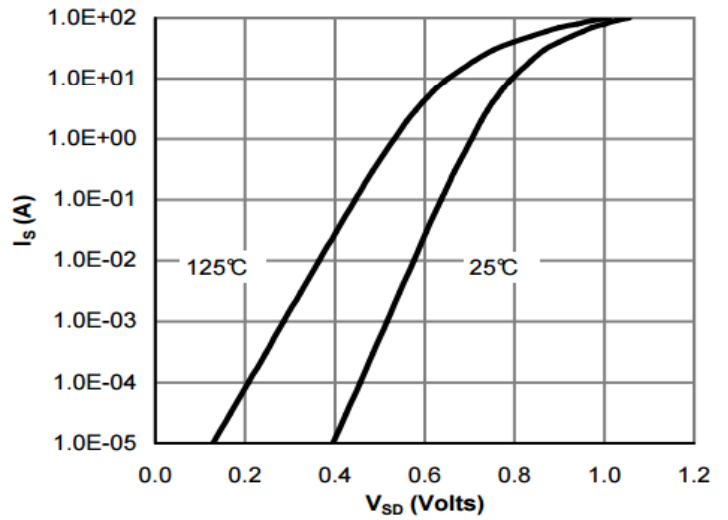
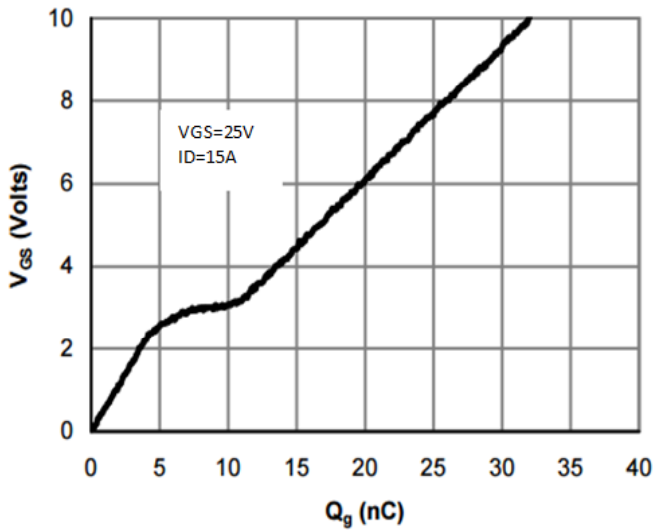


On Resistance Vs Junction Temperature



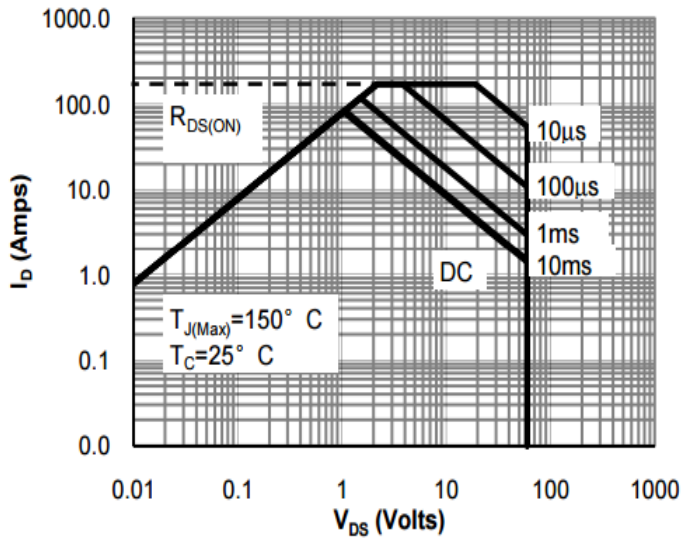
Capacitance

■ CHARACTERISTICS CURVE



Gate Charge Waveform

Source-Drain Diode Forward Voltage



Maximum Safe Operating Area

### TO-220 MECHANICAL DATA

UNIT: mm

SYMBOL	MIN	NOM	MAX	SYMBOL	MIN	NOM	MAX
A	4		4.8	e	2.44	2.54	2.64
B	1.2		1.4	F	1.1		1.4
B1	1		1.4	L	12.5		14.5
b1	0.75		0.95	L1	3	3.5	4
c	0.4		0.55	ΦP	3.7	3.8	3.9
D	15		16.5	Q	2.5		3
D1	5.9		6.9	Q1	2		2.9
E	9.9		10.7				

