

DESCRIPTION

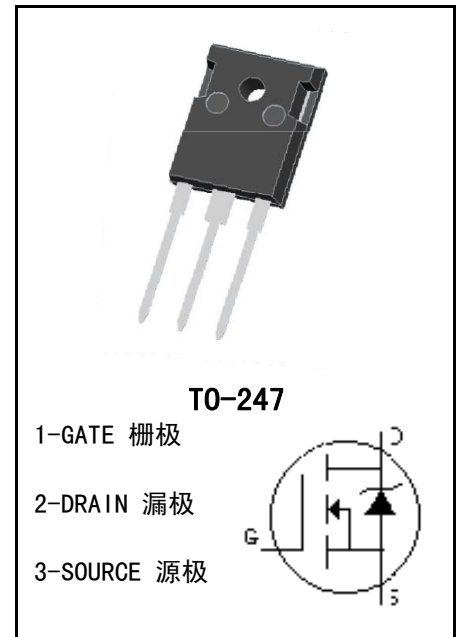
- ELECTRONIC BALLAST
- ELECTRONIC TRANSFORMER
- SWITCH MODE POWER SUPPLY

FEATURES:

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

MAXIMUM RATINGS (T_c=25°C)

PARAMETER	SYMBOL	VALUE	UNIT
Drain-source Voltage	VDS	600	V
gate-source Voltage	VGS	±30	V
Continuous Drain Current (T _C =25°C)	ID	47	A
Drain Current-Pulsed	IDM	140	A
Total Dissipation	PD	420	W
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55-150	°C
Single Pulse Avalanche Energy (I _{AS} =47A)	EAS	1150	mJ

MECHANICAL

ELECTRONIC CHARACTERISTICS (T_c=25°C)

CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	MAX	UNIT
Drain-source Breakdown Voltage	BVDSS	VGS=0V, ID=250uA	600		V
Gate Threshold Voltage	VGS (TH)	VGS=VDS, ID=250 μ A	2.5	4.5	V
Drain-source Leakage Current	IDSS	VDS=600V, VGS=0V		5	uA
Drain-Source Diode Forward Voltage	VSD	VGS=0V, IS=23A		1.5	V
Gate-body Leakage Current (VDS = 0)	IGSS	VGS=±30V		±0.1	uA
Forward Transconductance	gfs	Vds=10V Id=23A	20		S
Static Drain-source On Resistance	RDS (ON)	VGS=10V, ID=23A		70	mΩ
Thermal Resistance Junction-case	RthJ-c			0.9	°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	-	3050	-	pF
output Capacitance	C _{oss}		-	600	-	pF
Reverse Transfer Capacitance	C _{rss}		-	15	-	pF

■ SWITCHING CHARACTERISTICS (T_c=25°C)

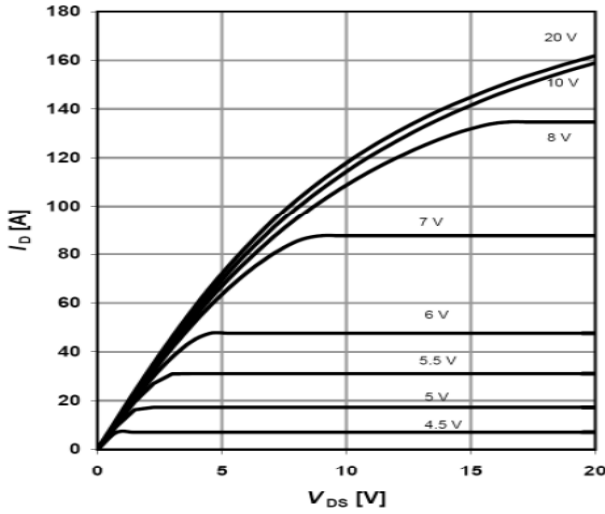
CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Turn-On Delay Time	t _{d(on)}	V _{DD} =480V, I _D =23A, R _G =20Ω, V _{GS} =10V	-	16	-	ns
Turn-On Rise Time	t _r		-	12	-	ns
Turn-Off Delay Time	t _{d(off)}		-	83	-	ns
Turn-Off Rise Time	t _f		-	5	-	ns
Total Gate Charge	Q _g	V _{DS} =480V, I _D =23A, V _{GS} =10V	-	170	-	nC
Gate-Source Charge	Q _{gs}		-	21	-	nC
Gate-Drain Charge	Q _{gd}		-	87	-	nC

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

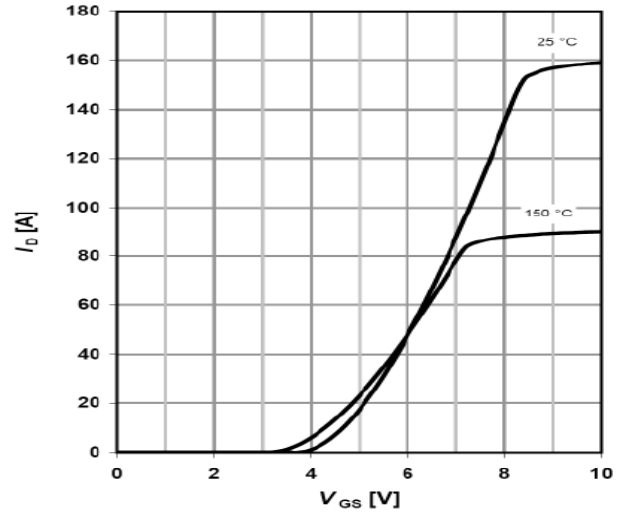
CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Max. Diode Forward Current	I _s		-	-	47	A
Max. Pulsed Forward Current	I _{SM}		-	-	140	A
Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _S =23A	-	-	1.5	V
Reverse Recovery Time	t _{rr}	V _{GS} =0V, I _S =23A, dI _F /dt=100A/μs,	-	230	-	ns
Reverse Recovery Charge	Q _{rr}		-	3	-	μC



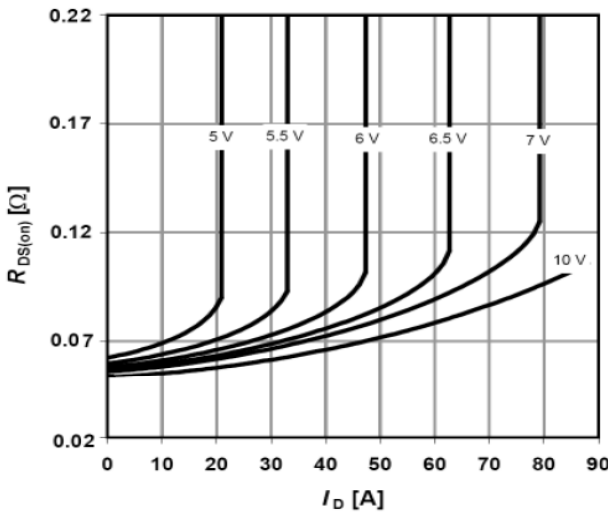
CHARACTERISTICS CURVE



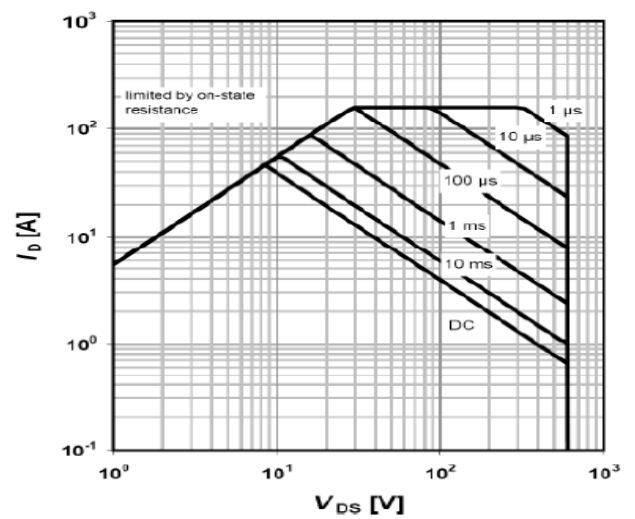
Output Characteristic



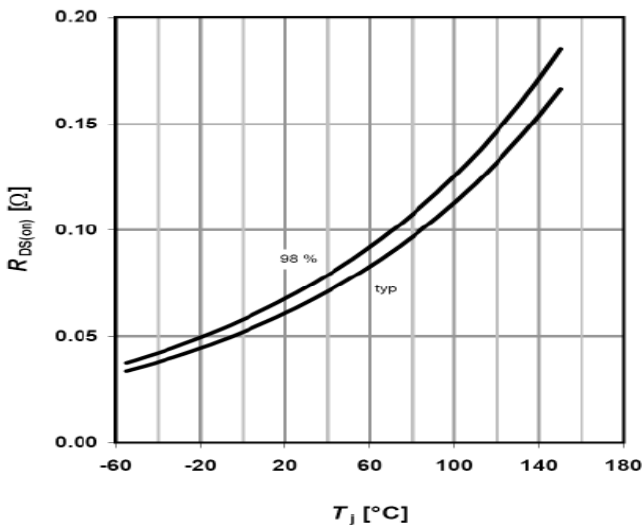
Transfer Characteristic



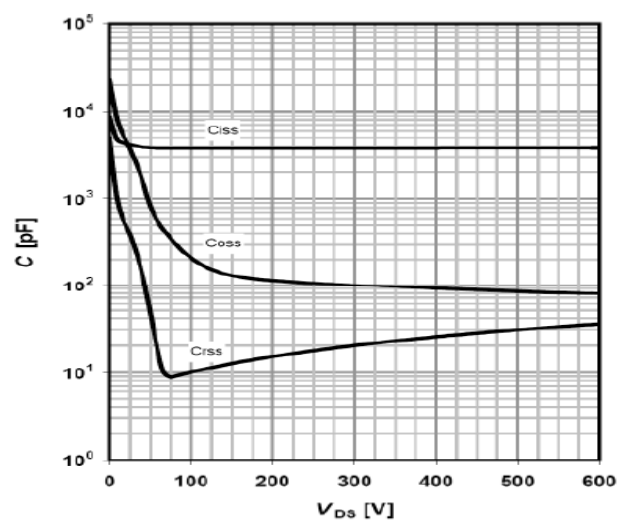
On Resistance Vs Drain Current



Safe Operating Area

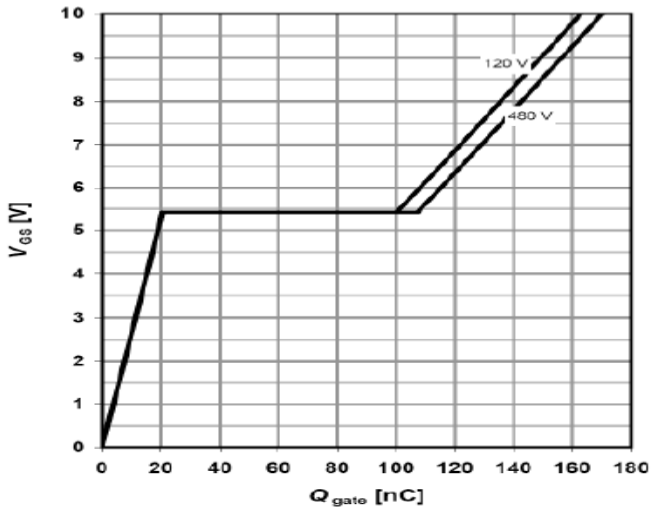


On Resistance Vs Junction Temperature

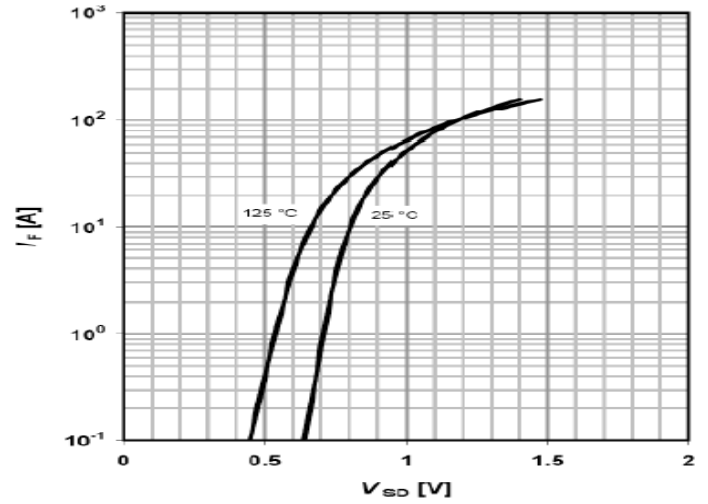


Capacitance

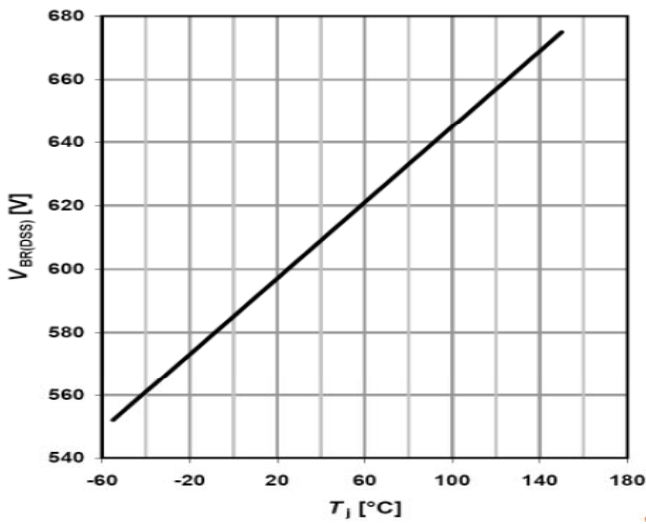
■ CHARACTERISTICS CURVE



Gate Charge Waveform



Source-Drain Diode Forward Voltage



Breakdown Voltage Vs Junction Temperature

TO-247 MECHANICAL DATA

UNIT: mm

SYMBOL	MIN	NOM	MAX	SYMBOL	MIN	NOM	MAX
A	4.60		5.15	A1	1.30		1.60
b	2.86		3.26	b1	1.86		2.26
b2		1.20		C		0.50	
D	19.00		21.00	E	15.45		15.75
E1	12.00		13.06	e		5.45	
L	14.00		14.60	L1	5.20		5.88
L2	24.00		24.40	L3	10.00		10.60
P		3.50		Q	2.30		2.70

