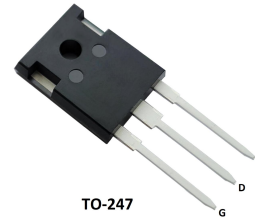


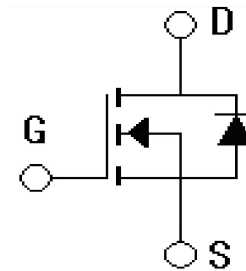
Features

- $V_{DS}=1200V, I_D=15A$
 $R_{DS(on)} < 0.8\Omega @ V_{GS}=10V$
- High density cell design for ultra low R_{Dson}
- Low gate charge
- Improved dv/dt capability
- RoHS product



Applications

- High Voltage Switched-mode and resonant-mode power supplies
- High Voltage Pulse Power Applications
- High Voltage Discharge circuits in Lasers Pulsers, Spark Igniters, RF Generators
- High Voltage DC-DC converters
- High Voltage DC-AC inverters



Absolute Ratings ($T_c=25^\circ C$)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DSS}	1200	V
Gate-Source Voltage	V_{GSS}	± 30	V
Drain Current-continuous	$I_D (25^\circ C)$	15	A
	$I_D (100^\circ C)$	10	
Drain Current-pulse	I_{DM}	35	A
Single Pulsed Avalanche Energy	E_{AS}	480	mJ
Maximum Power Dissipation	PD TC=25°C Derate above 25°C	960	W
		7.7	W/°C
Operating and Storage Temperature Range	T_J, T_{STG}	-55~+150	°C

Electrical Characteristics ($T_{CASE}=25^\circ C$ unless otherwise specified)

Parameter	Symbol	Tests conditions	Min	Typ	Max	Units
Drain-Source Voltage	BV_{DSS}	$I_D=1mA, V_{GS}=0V$	1200	-	-	V

Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=V_{DSS}, V_{GS}=0V$	-	-	1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 30V, V_{DS}=0V$	-	-	± 100	nA
On-Characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2.5	-	5.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=1A$	-	0.68	0.8	Ω
Forward Transconductance	g_{fs}	$V_{DS}=20V, I_D=7A$	-	20	-	S
Dynamic Characteristics						
Input capacitance	C_{iss}	$V_{DS}=25V, V_{GS}=0V, f=1.0MHz$	-	4890	-	pF
Output capacitance	C_{oss}		-	353	-	pF
Reverse transfer capacitance	C_{rss}		-	21	-	pF

Electrical Characteristics ($T_{CASE}=25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Tests conditions	Min	Typ	Max	Units
Switching-Characteristics						
Turn-On delay time	$t_{d(on)}$	$V_{DS}=600V, I_D=7A, R_G=25\Omega, V_{GS}=10V$	-	101	-	ns
Turn-On rise time	t_r		-	66	-	ns
Turn-Off delay time	$t_{d(Off)}$		-	244	-	ns
Turn-Off rise time	t_f		-	56	-	ns
Total Gate Charge	Q_g	$V_{DS}=600V, I_D=7A, R_G=25\Omega, V_{GS}=10V$	-	100	-	nC
Gate-Source charge	Q_{gs}		-	34	-	nC
Gate-Drain charge	Q_{gd}		-	37	-	nC
Drain-Source Diode Characteristics and Maximum Ratings						
Maximum Continuous Drain-Source Diode Forward Current	I_{SD}	$V_{GS}=0V, I_S=15A$	0.5	-	1.2	V
Diode Forward Current	I_S	$TC=25^{\circ}C$	-	-	15	A
Reverse recovery time	T_{rr}	$I_S=7A, di/dt=100A/\mu S$	-	0.65	-	nS
Reverse recovery charge	Q_{rr}	$VR=100V, V_{GS}=0V$	-	7.65	-	μC

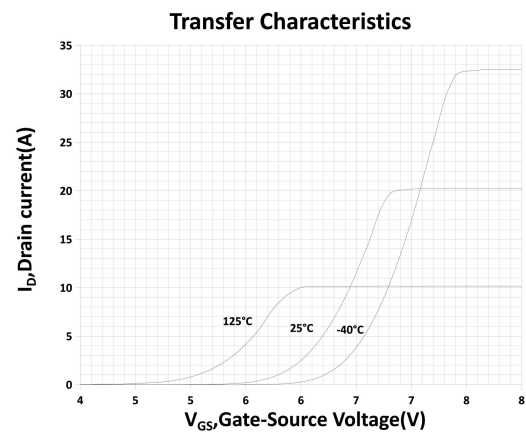
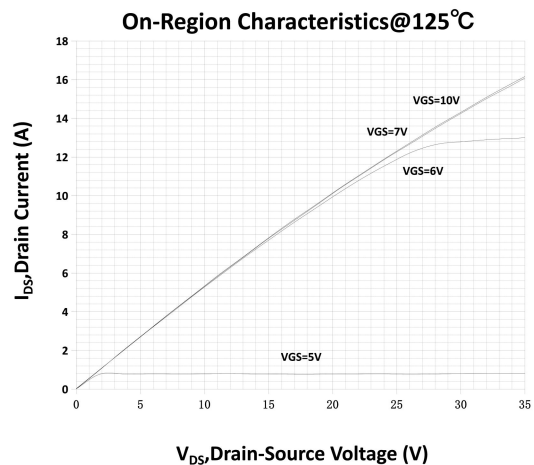
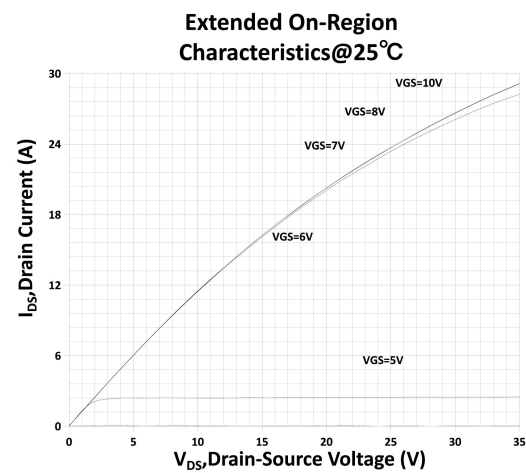
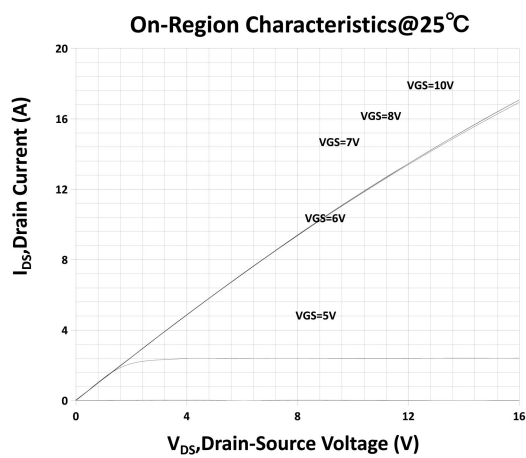
Thermal Characteristic

Parameter	Symbol	Value	Unit
Thermal Resistance, junction to Case	$R_{th(j-C)}$	0.17	$^{\circ}C/W$
Thermal Resistance, junction to Case	$R_{th(j-A)}$	36	$^{\circ}C/W$

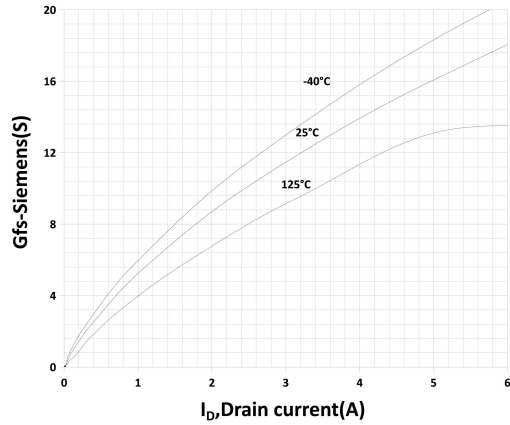
Notes:

1. Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$

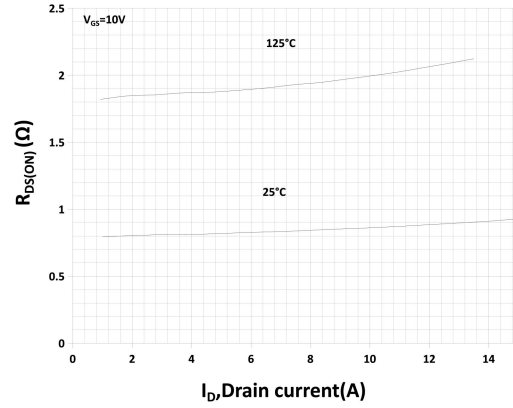
Electrical Characteristics



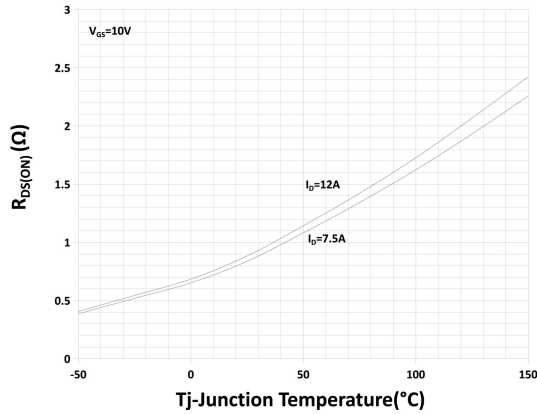
Transconductance



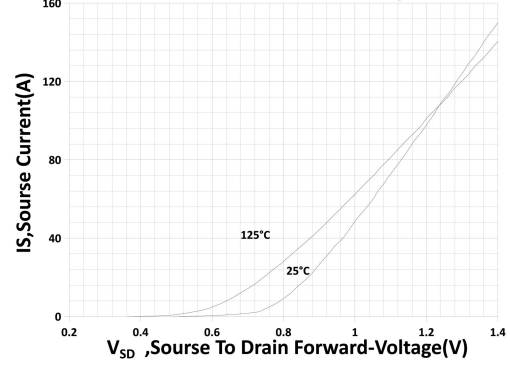
On-Resistance Variation vs Drain Current and Gate Voltage



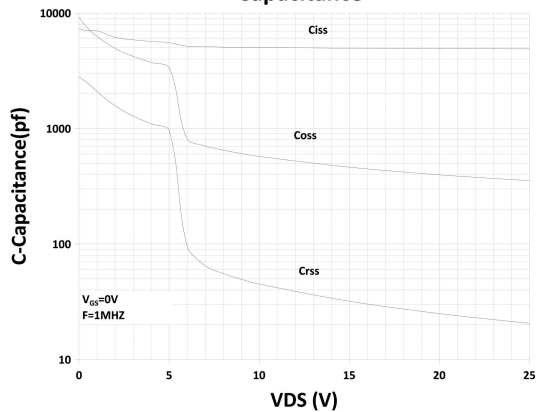
On-Resistance Variation vs Temperature



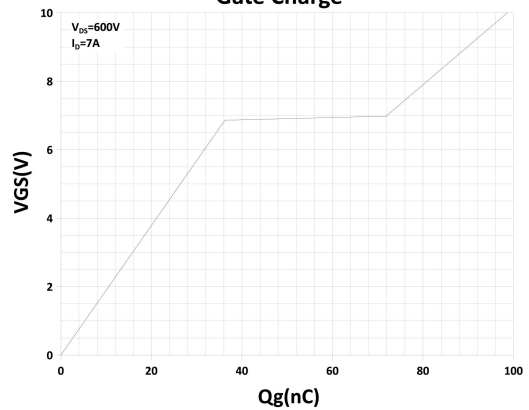
Body Diode Forward Voltage Variation with Source Current and Temperature



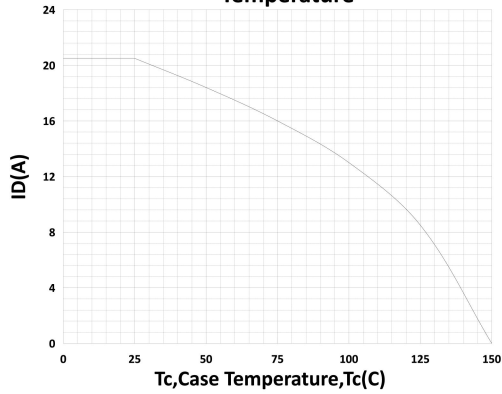
Capacitance



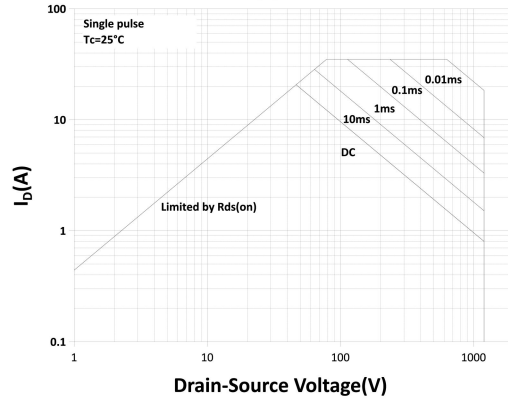
Gate Charge



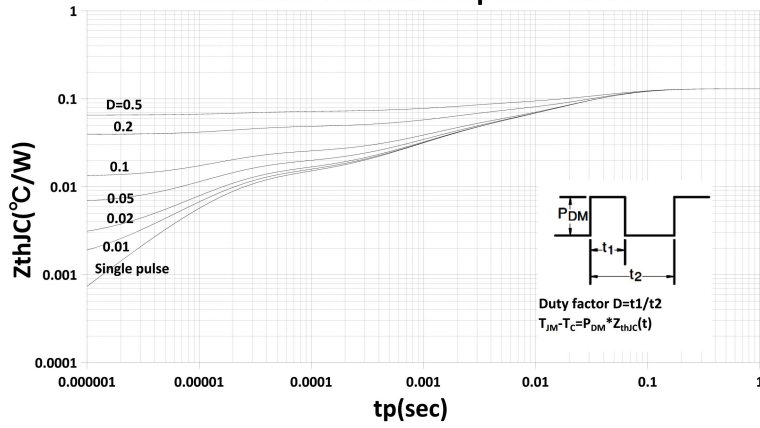
Maximum Drain Current vs Case Temperature



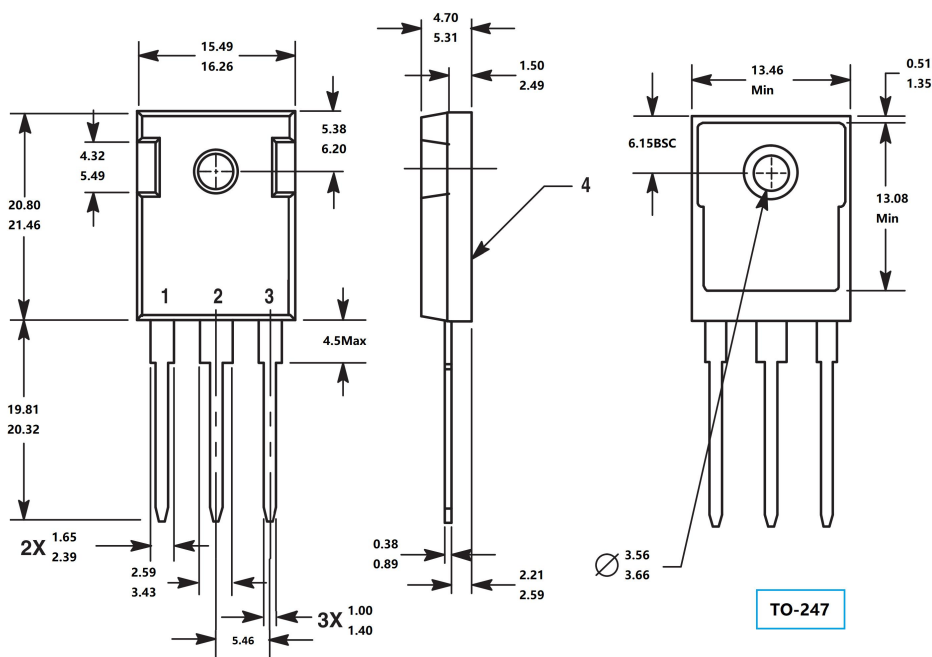
SOA



Transient Thermal Response Curve



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