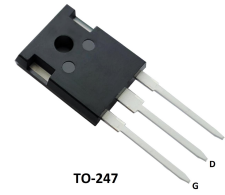


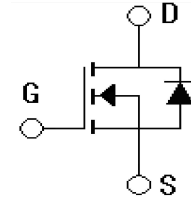
Features

- $V_{DS}=200V, I_D=200A$
 $R_{DS(on)}=10m\Omega$
- High density cell design for ultra low $R_{DS(on)}$
- 100% avalanche tested
- Low gate charge



Applications

- High Efficiency Synchronous Rectification in SMPS
- Uninterruptible Power Supply
- High Speed Power Switching
- Hard Switched And High Frequency Circuits



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

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DSS}	200	V
Transient Gate-Source Voltage	V_{GSM}	± 30	V
Continuous Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current-continuous	I_D	200	A
Drain Current-pulse	I_{DM}	800	A
Single Pulsed Avalanche Energy	E_{AS}	750	mJ
Maximum Power Dissipation	P_D	$T_c=25^\circ C$	W
		$T_c=100^\circ C$	
Operating Temperature Range	T_J	$-55 \sim +150$	$^\circ C$
Storage Temperature Range	T_{STG}	$-55 \sim +150$	$^\circ C$

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

Parameter	Symbol	Tests conditions	Min	Typ	Max	Units
Drain-Source Voltage	BV_{DSS}	$I_D=250\mu A, V_{GS}=0V$	200	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=V_{DSS}, V_{GS}=0V$	-	-	25	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	-	-	± 100	nA
On-Characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2.5	-	5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=100A$ (not1)	-	10	-	$m\Omega$
Forward	g_{fs}	$V_{DS}=50V, I_D=100A$	150	-	-	S

Transconductance		(not1)				
Gate Input Resistance	R _g		-	1	-	Ω
Dynamic Characteristics						
Input capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, f=1.0MHZ	-	10.5	-	nF
Output capacitance	C _{oss}		-	760	-	pF
Reverse transfer capacitance	C _{rss}		-	150	-	pF

Electrical Characteristics(T_{CASE}=25°C unless otherwise specified)

Parameter	Symbol	Tests conditions	Min	Typ	Max	Units
Switching-Characteristics						
Turn-On delay time	t _{d(on)}	V _{DS} =100V,I _D =100A, V _{GS} =10V,R _g =2.7Ω	-	41	-	ns
Turn-On rise time	t _r		-	105	-	ns
Turn-Off delay time	t _{d(Off)}		-	64	-	ns
Turn-Off rise time	t _f		-	74	-	ns
Total Gate Charge	Q _g	V _{DS} =100V,I _D =100A, V _{GS} =10V	-	150	-	nC
Gate-Source charge	Q _{gs}		-	52	-	nC
Gate-Drain charge	Q _{gd}		-	51	-	nC
Drain-Source Diode Characteristics and Maximum Ratings						
Drain-Source Diode Forward Voltage	V _{SD}	V _{GS} =0V,I _s =100A (not1)	-	-	1.2	V
Diode Forward Current	I _s	TC=25℃	-	-	200	A
Reverse recovery time	T _{rr}	I _s =100A, dI/dT=100A/μs VR=100V,VGS=0V	-	125	-	ns
Reverse recovery charge	Q _{rr}		-	620	-	μC
Reverse recovery Current	I _{rm}		-	8.7	-	A

Thermal Characteristic

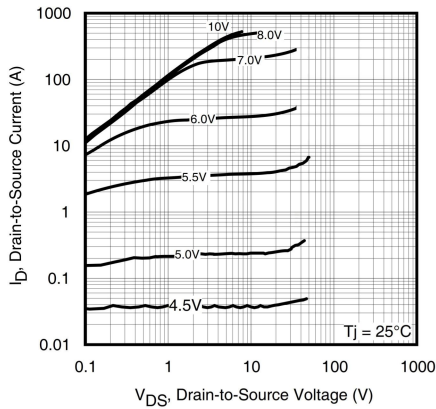
Parameter	Symbol	Value	Unit
Thermal Resistance,junction to Case	R _{th(j-C)}	0.30	°C/W
Thermal Resistance,junction to Ambient	R _{th(j-A)}	40	°C/W

Notes:

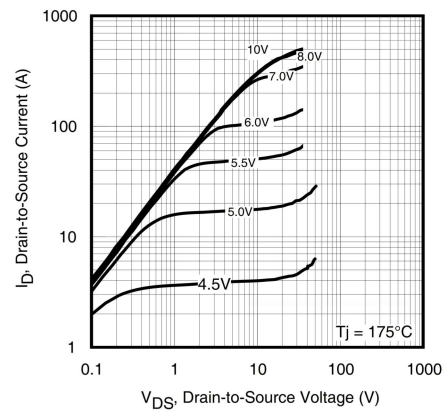
1. Pulse Test: Pulse Width ≤300μs, Duty Cycles≤2%

Electrical Characteristics

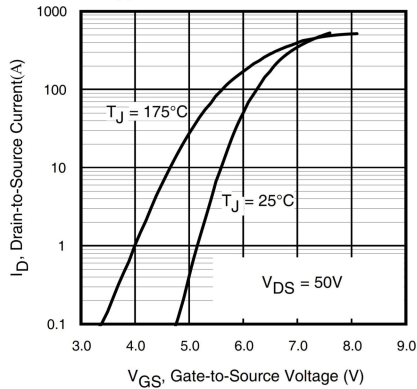
Typical Output Characteristics



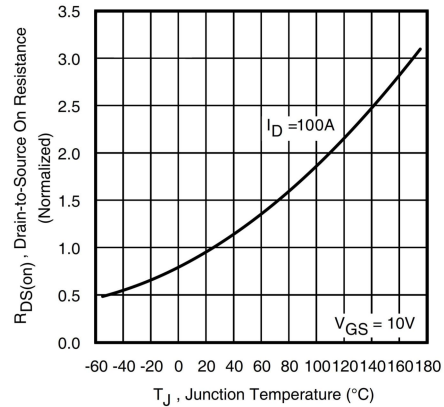
Typical Output Characteristics



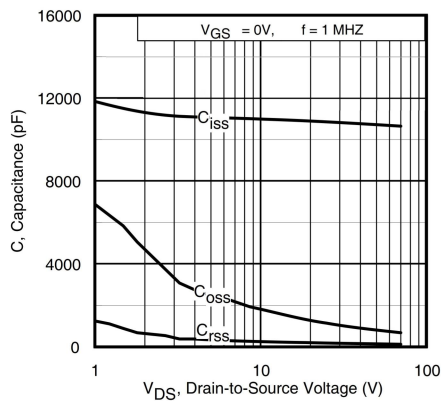
Typical Transfer Characteristics



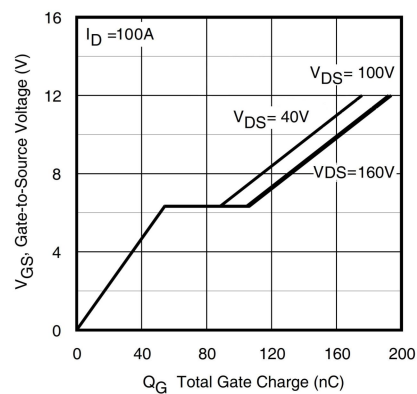
Normalized On-Resistance vs. Temperature



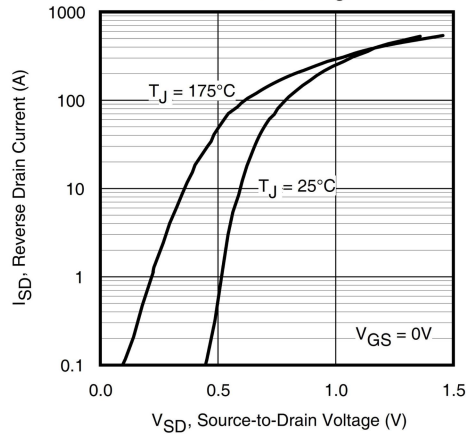
Typical Capacitance vs. Drain-to-Source Voltage



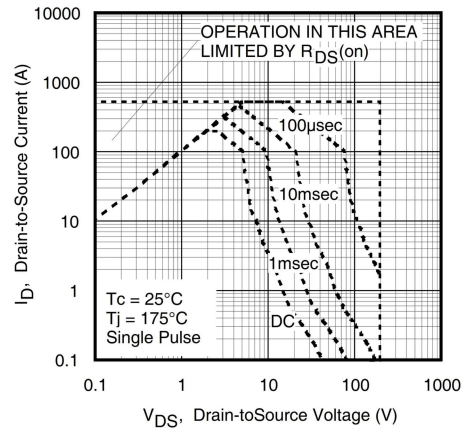
Typical Gate Charge vs. Gate-to-Source Voltage



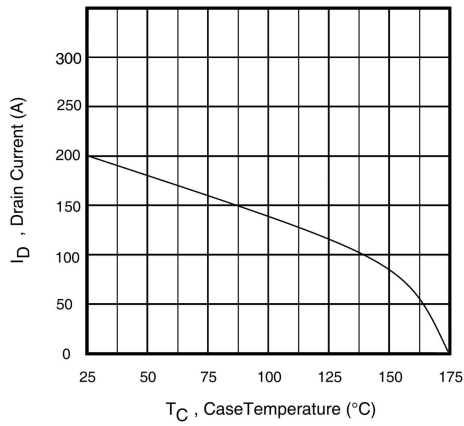
Typical Source-Drain Diode Forward Voltage



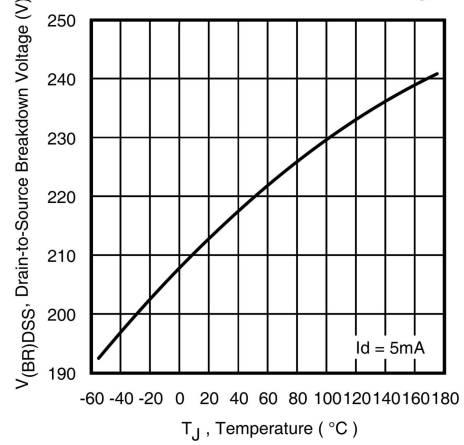
Maximum Safe Operating Area



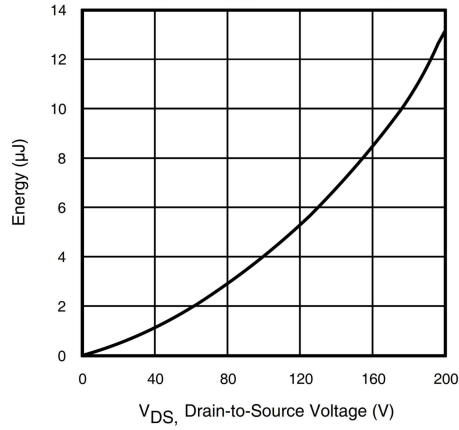
Maximum Drain Current vs. Case Temperature



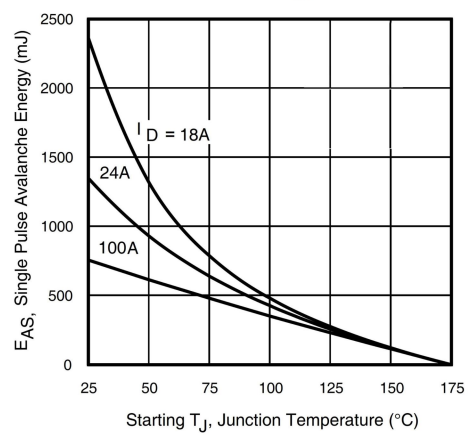
Drain-to-Source Breakdown Voltage



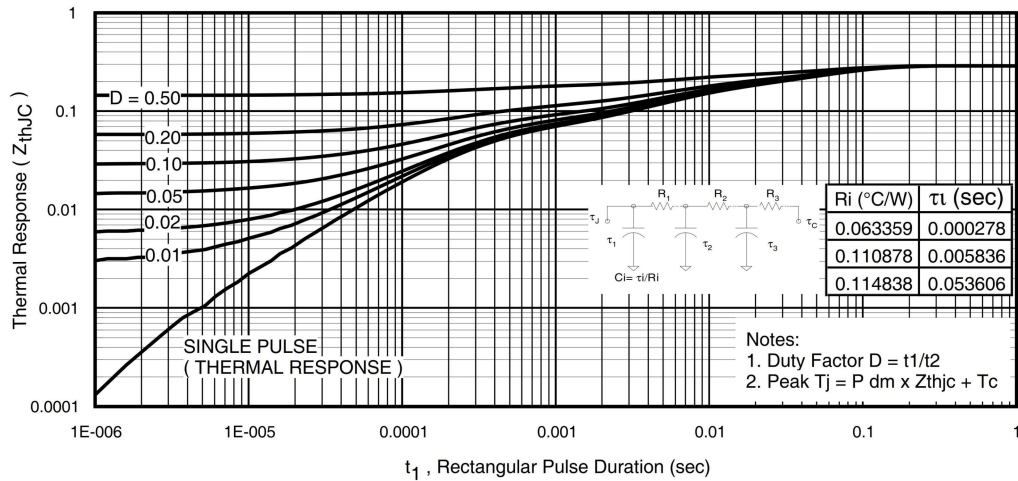
Typical C_{OSS} Stored Energy



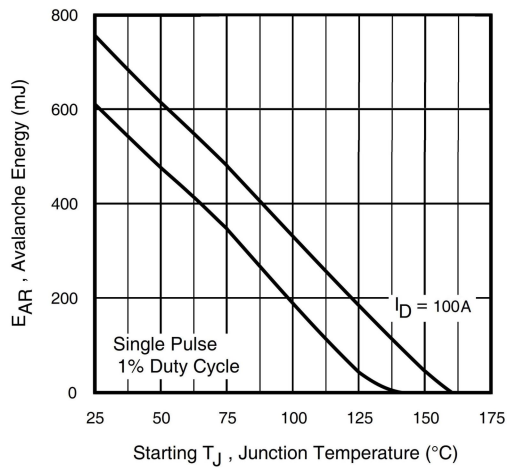
Maximum Avalanche Energy Vs. Drain Current



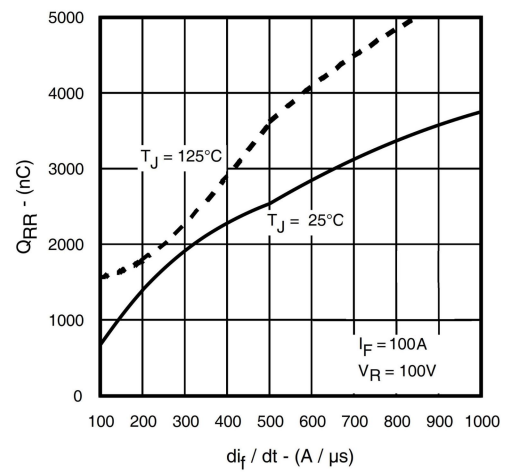
Maximum Effective Transient Thermal Impedance, Junction-to-Case



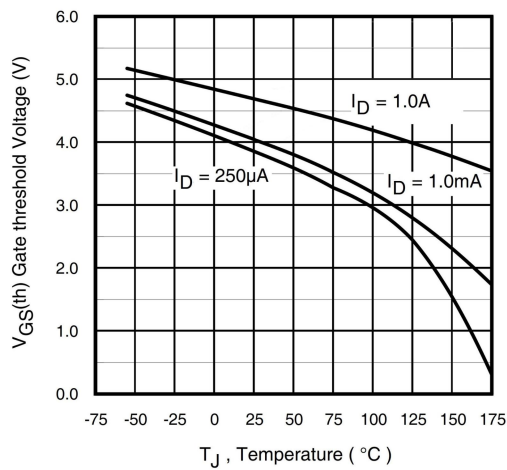
Maximum Avalanche Energy vs. Temperature



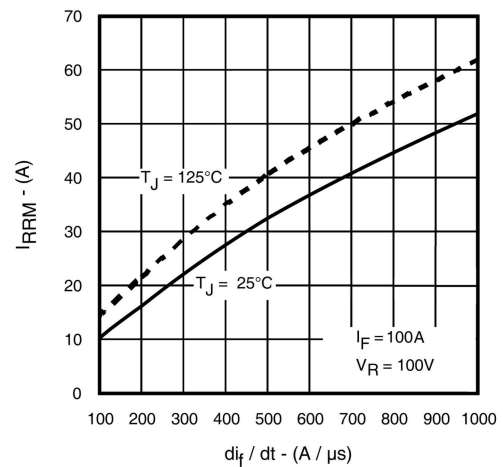
Typical Stored Charge vs. di/dt



Threshold Voltage Vs. Temperature



Typical Recovery Current vs. di/dt



Package Mechanical DATA

