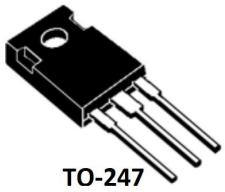
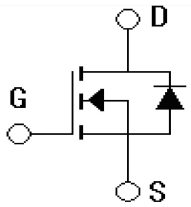
Features



- V_{DS}=200V,I_D=100A
  $R_{DS(on)}$=0.038Ω @ V_{GS}=10V
- High density cell design for ultra low Rdson
- Low gate charge
- Improved dv/dt capability
- RoHS productd

Applications



- Power switching application
- Isolated DC/DC converters in Telecom and Industrial
- Synchronous Rectification in DC/DC Converters

Absolute Ratings (Tc=25℃)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DSS}	200	V
Gate-Source Voltage	V_{GSS}	±20	V
Drain Current-continuous	I_D	100	A
Drain Current-pulse (note 1)	I_{DM}	400	A
Single Pulsed Avalanche Energy (note 2)	E_{AS}	560	mJ
Maximum Power Dissipation	PD TC=25℃	300	W
	Derate above 25℃	2.0	W/℃
Operating and Storage Temperature Range	T_J,T_{STG}	-55~+150	℃

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

Parameter	Symbol	Tests conditions	Min	Typ	Max	Units
Drain-Source Voltage	BV_{DSS}	I_D=250μA,V_{GS}=0V	200	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=100V,V_{GS}=0V	-	-	25	μA
Gate-Body Leakage Current	I_{GSS}	V_{GS}=±20V，V_{DS}=0V	-	-	±100	nA

On-Characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS},I_D=250μA	3	-	4.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{DS}=10V,I_D=50A	-	-	0.038	Ω
Forward Transconductance	g_{fs}	V_{DS}=50V,I_D=50A (note 4)	-	52	-	S
Dynamic Characteristics						
Input capacitance	C_{iss}	V_{DS}=25V, V_{GS}=0V, f=1MHZ	-	4400	-	pF
Output capacitance	C_{oss}		-	734	-	pF
Reverse transfer capacitance	C_{rss}		-	78	-	pF

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

Parameter	Symbol	Tests conditions	Min	Typ	Max	Units
Switching-Characteristics						
Turn-On delay time	$t_{d(on)}$	V_{DD}=100V,I_D=50A, R_G=1.8Ω V_{GS}=10V (note 4,5)	-	76.6	-	ns
Turn-On rise time	t_r		-	120.6	-	ns
Turn-Off delay time	$t_{d(Off)}$		-	239	-	ns
Turn-Off rise time	t_f		-	184	-	ns
Total Gate Charge	Q_g	V_{DS}=200V, I_D=50A, V_{GS}=10V (note 4,5)	-	123	-	nC
Gate-Source charge	Q_{gs}		-	29.4	-	nC
Gate-Drain charge	Q_{gd}		-	71.25	-	nC
Drain-Source Diode Characteristics and Maximum Ratings						
Maximum Continuous Drain-Source Diode Forward Curret	V_{SD}	V_{GS}=0V,I_S=100A	-	-	1.3	V
Reverse recovery time	Trr	I_S=50A,DI/DT=100A/uS	-	267	-	nS
Reverse recovery charge	Qrr		-	3.2	-	uC

Thermal Characteristic

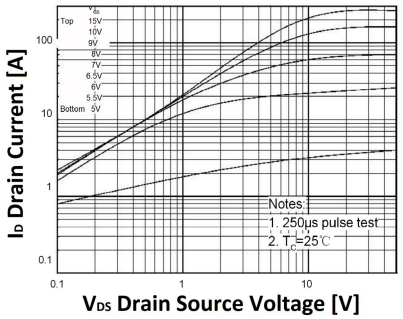
Parameter	Symbol	Value	Unit
Thermal Resistance,junction to Case	R_{th}(j-C)	0.50	℃/W
Thermal Resistance, Junction to Ambient	R_{th}(j-A)	40	℃/W

Notes:

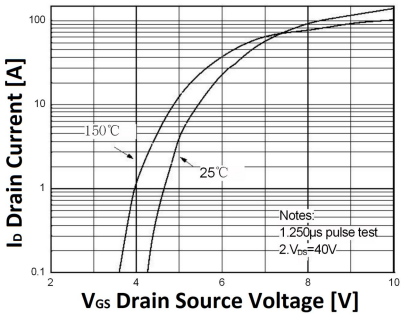
1. Repetitive rating; pulse width limited by max. junction temperature.
2. I_{AS}=50A, L=1.5mH, R_G=25 Ω,Starting T_J=25℃
3. I_{SD} ≤50A, di/dt = 486A/us, V_{DD} ≤ BV_{DSS}, Staring T_J <=175℃
4. Pulse Test：Pulse Width ≤300μs,Duty Cycle≤2%

Electrical Characteristics

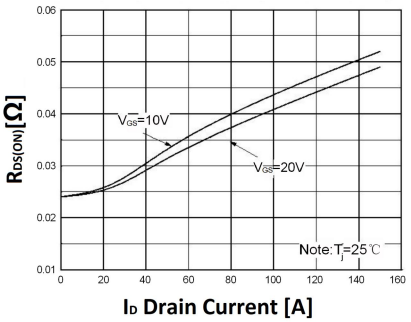
On-Region Characteristics



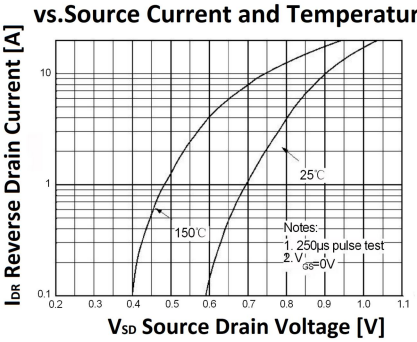
Transfer Characteristics



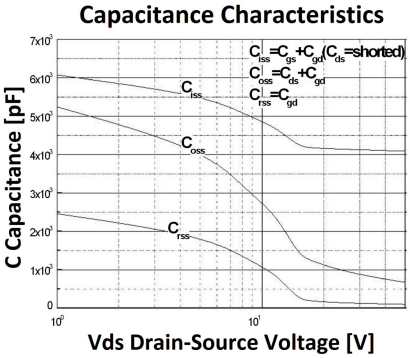
On-Resistance Variation vs. Drain Current and Gate Voltage



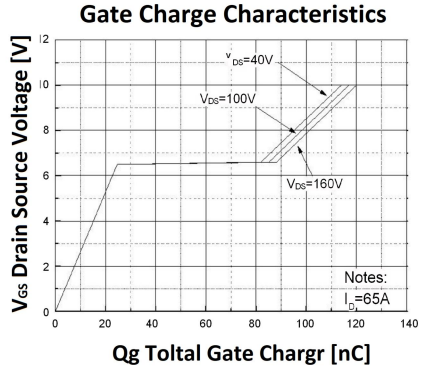
Body Diode Forward Voltage Variation vs.Source Current and Temperature



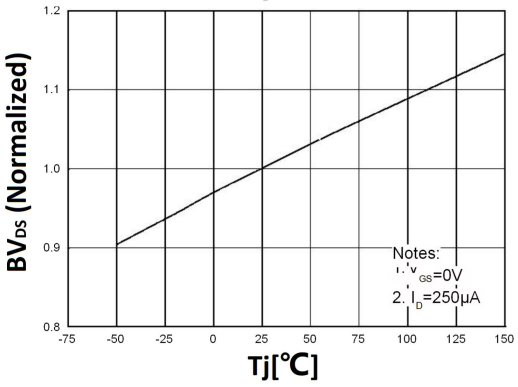
Capacitance Characteristics



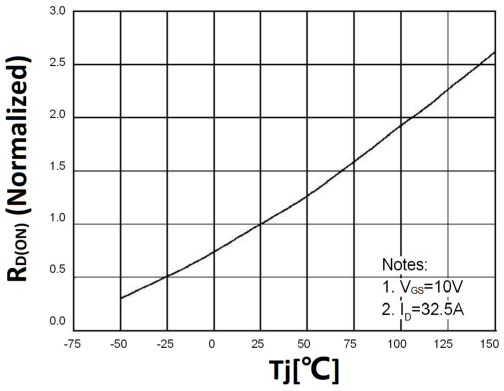
Gate Charge Characteristics



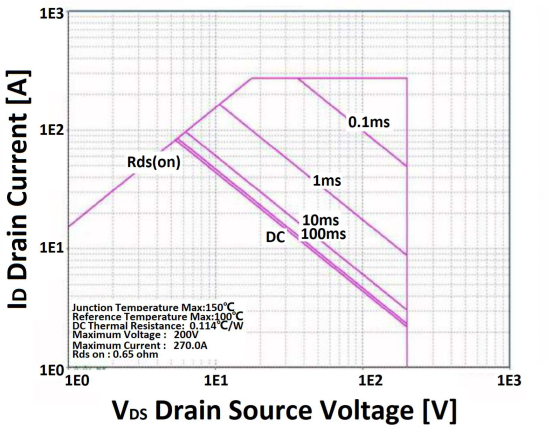
Breakdown Voltage Variation vs.Temperature



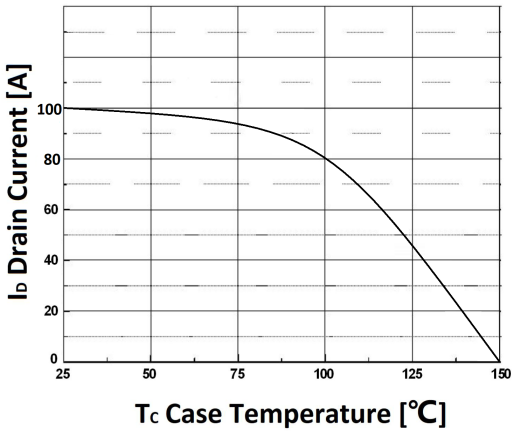
On-Resistance Variation vs.Temperature



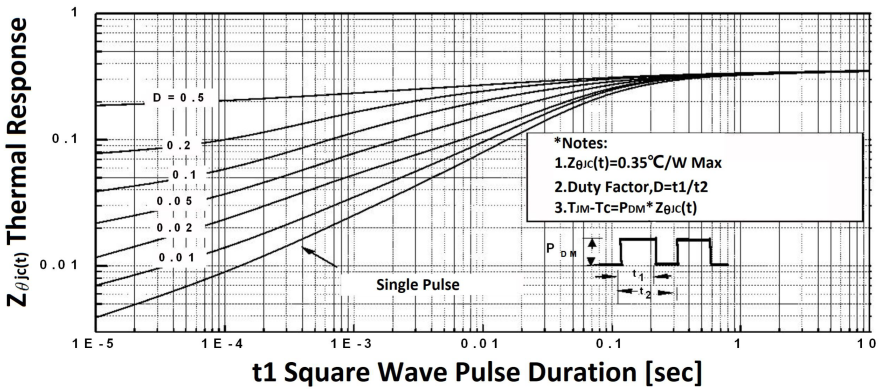
Maximum Safe Operating Area



Maximum Drain Current vs.Case Temperature



Transient Thermal Response Curve



Package Mechanical DATA