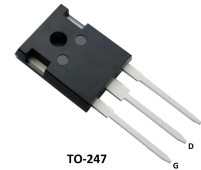


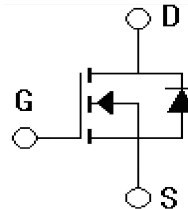
Features

- $V_{DS}=250V, I_D=120A$
 $R_{DS(on), Type}=30m\Omega@35A$
- Low gate charge
- Improved dv/dt capability



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}		250	V
Transient Gate-Source Voltage	V _{GSM}		± 30	V
Continuous Gate-Source Voltage	V _{GSS}		± 20	V
Drain Current-continuous	I _D		120	A
Drain Current-pulse	I _{DM}		480	A
Single Pulsed Avalanche Energy	E _{AS}		800	mJ
Peak Diode Recovery dv/dt	dv/dt		24	V/ns
Maximum Power Dissipation	P _D	T _C =25℃	312	W
		T _C =100℃	125	
Operating and Storage Temperature Range	T _J ,T _{STG}		-55~+150	℃

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

Parameter	Symbol	Tests conditions	Min	Typ	Max	Units
Drain-Source Voltage	BV_{DSS}	$I_D=250\mu A, V_{GS}=0V$	250	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=V_{DSS}, V_{GS}=0V$	-	-	20	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	-	-	± 100	nA
On-Characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2.4	3.2	4.0	V

Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=35A$	-	30	35	mΩ
Forward Trans conductance	gfs	$V_{GS}=10V, I_D=35A$	100			S
Dynamic Characteristics						
Input capacitance	C_{iss}	$V_{DS}=25V,$ $V_{GS}=0V,$ $f=1.0MHz$	-	10500	-	pF
Output capacitance	C_{oss}		-	600	-	pF
Reverse transfer capacitance	C_{rss}		-	180	-	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} =125V, I _D =60A, V _{GS} =10V	-	33	-	ns
Turn-On rise time	t _r		-	154	-	ns
Turn-Off delay time	t _{d(Off)}		-	55	-	ns
Turn-Off rise time	t _f		-	109	-	ns
Total Gate Charge	Q _g	V _{DS} =125V, I _D =60A, V _{GS} =10V	-	130	-	nC
Gate-Source charge	Q _{gs}		-	22	-	nC
Gate-Drain charge	Q _{gd}		-	38	-	nC
Drain-Source Diode Characteristics and Maximum Ratings						
Drain-Source Diode Forward Voltage	V _{SD}	V _{GS} =0V,I _S =70A	-	0.85	1.2	V
Diode Forward Current	I _S	T _C =25°C	-	-	120	A
Reverse recovery time	T _{rr}	I _S =60A, di/dt=100A/μs	-	180	-	ns
Reverse recovery charge	Q _{rr}		-	1400	-	nC

Thermal Characteristics

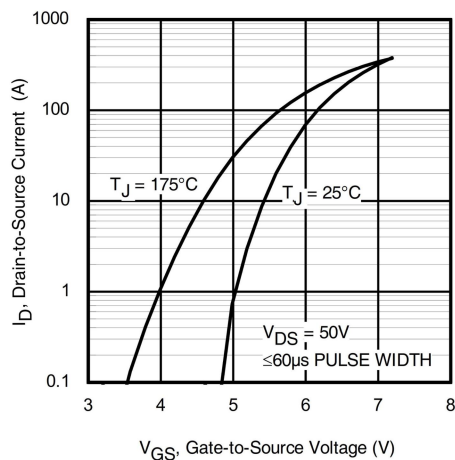
Parameter	Symbol	Value	Unit
Thermal Resistance, junction to Case, Max	$R_{th(j-C)}$	0.4	$^{\circ}C/W$
Thermal Resistance, junction to Ambient, Max	$R_{th(j-A)}$	40	$^{\circ}C/W$

Notes:

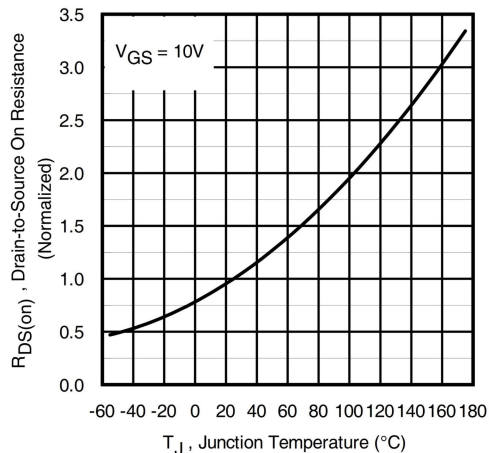
1. Pulse Test: Pulse Width $\leq 400\mu s$, Duty Cycle $\leq 2\%$
2. Limited by T_{jmax} , starting $T_j=25^{\circ}C$, $L=0.5mH$, $V_{GS}=10V$

Electrical Characteristics

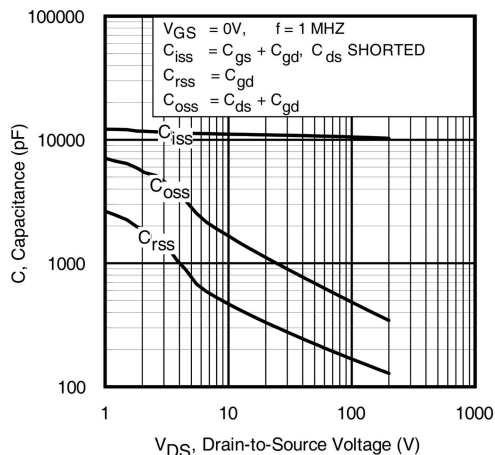
Typical Transfer Characteristics



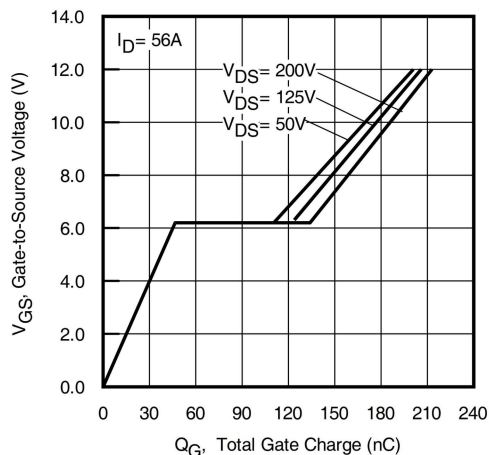
Normalized On-Resistance vs. Temperature



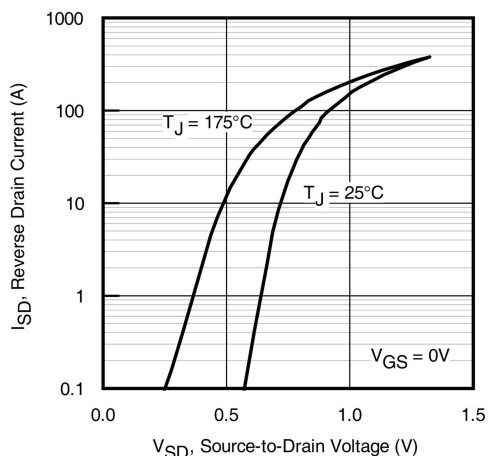
Typical Capacitance vs. Drain-to-Source Voltage



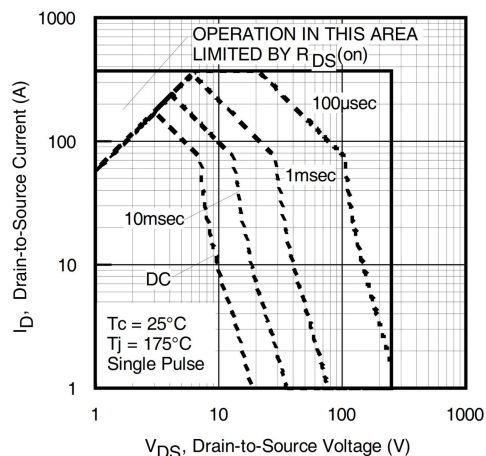
Typical Gate Charge vs. Gate-to-Source Voltage



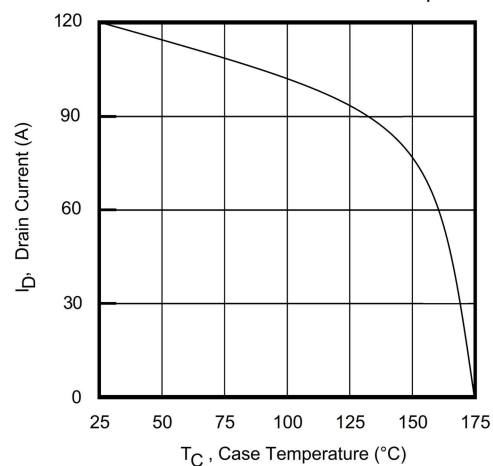
Typical Source-Drain Diode Forward Voltage



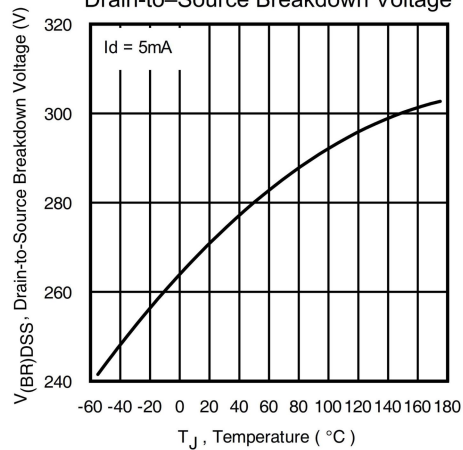
Maximum Safe Operating Area



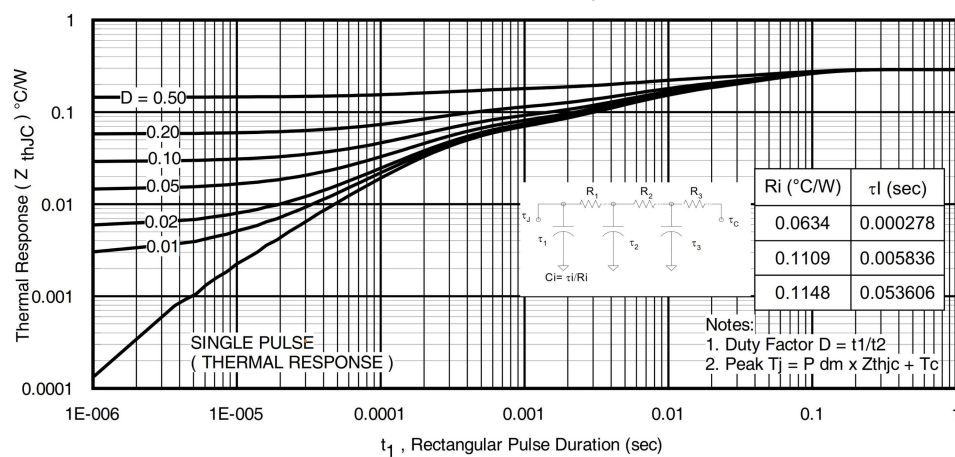
Maximum Drain Current vs. Case Temperature



Drain-to-Source Breakdown Voltage



Maximum Effective Transient Thermal Impedance, Junction-to-Case



Package Mechanical DATA

