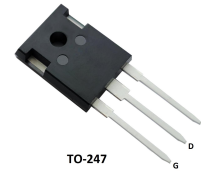


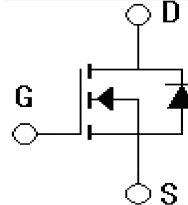
Features

- $V_{DS}=250V, I_D=150A, R_{DS(on)}=20m\Omega$
- 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 (Tc=25°C)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DSS}	250	V
Gate-Source Voltage	V_{GSS}	± 30	V
Drain Current-continuous	I_D	150	A
Drain Current-pulse	I_{DM}	600	A
Single Pulsed Avalanche Energy	E_{AS}	780	mJ
Peak Diode Recovery dv/dt	dv/dt	24	V/ns
Maximum Power Dissipation	PD TC=25°C TC=100°C	500	W
		250	
Operating and Storage Temperature Range	T_J, T_{STG}	-55~+175	°C

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

Parameter	Symbol	Tests conditions	Min	Type	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}	$V_{GS}=\pm 30V, V_{DS}=0V$	-	-	± 100	nA
On-Characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	3.0	4.0	5.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=35A$	-	20	22	m Ω

Dynamic Characteristics						
Input capacitance	C_{iss}	$V_{DS}=25V,$ $V_{GS}=0V,$ $f=1.0MHz$	-	4100	-	pF
Output capacitance	C_{oss}		-	600	-	pF
Reverse transfer capacitance	C_{rss}		-	180	-	pF
Gate Resistance	R_G	$f=1.0MHz$	-	2.1	-	Ω

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

Parameter	Symbol	Tests conditions	Min	Typ	Max	Units
Switching-Characteristics						
Turn-On delay time	$t_{d(on)}$	$V_{DS}=125V,$ $I_D=75A,$ $V_{GS}=10V$	-	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	$V_{DS}=125V,$ $I_D=75A,$ $V_{GS}=10V$	-	130	-	nC
Gate-Source charge	Q_{gs}		-	22	-	nC
Gate-Drain charge	Q_{gd}		-	38	-	nC
Drain-Source Diode Characteristics and Maximum Ratings						
Maximum Continuous Drain-Source Diode Forward Current	V_{SD}	$V_{GS}=0V, I_S=75A$	-	-	1.3	V
Diode Forward Current	I_S	$TC=25^{\circ}C$	-	-	150	A
Reverse recovery time	T_{rr}	$I_S=75A,$ $dI/dT=100A/\mu s$	-	180		ns
Reverse recovery charge	Q_{rr}		-	1400		nC

Thermal Characteristic

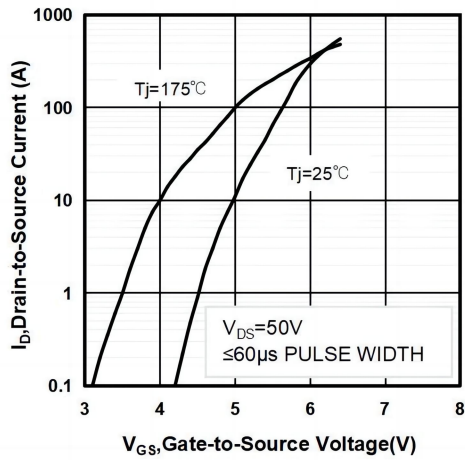
Parameter	Symbol	Value	Unit
Thermal Resistance, junction to Case	$R_{th(j-C)}$	0.3	$^{\circ}C/W$
Thermal Resistance, junction to Ambient	$R_{th(j-A)}$	40	$^{\circ}C/W$

Notes:

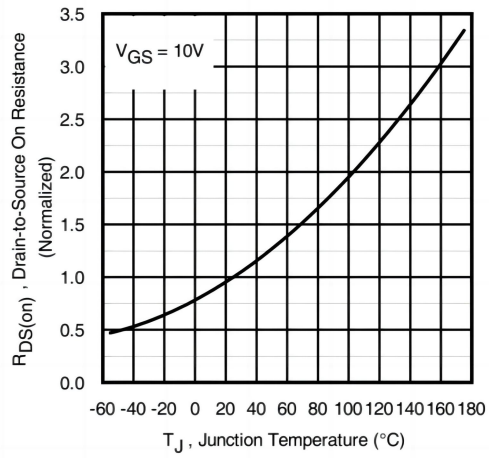
1. Pulse Test: Pulse Width $\leq 400\mu s$, Duty Cycle $\leq 2\%$
2. Limited by T_{jmax} , starting $T_j=25^{\circ}C, L=0.5mH, V_{GS}=10V$

Electrical Characteristics

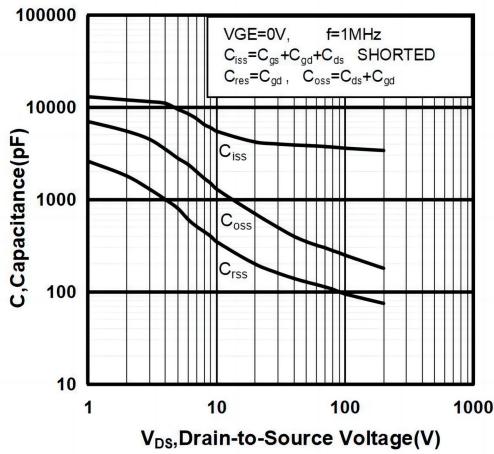
Typical Transfer characteristics



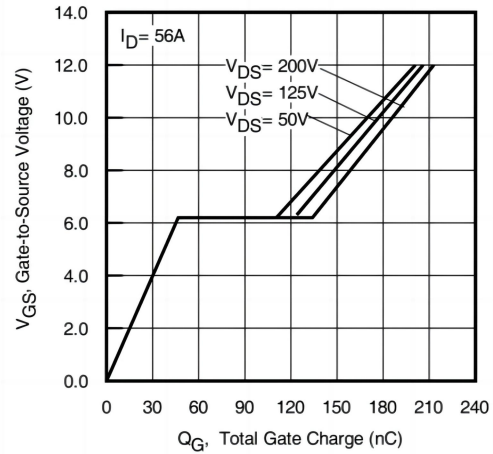
Normalized On-Resistance vs. Temperature



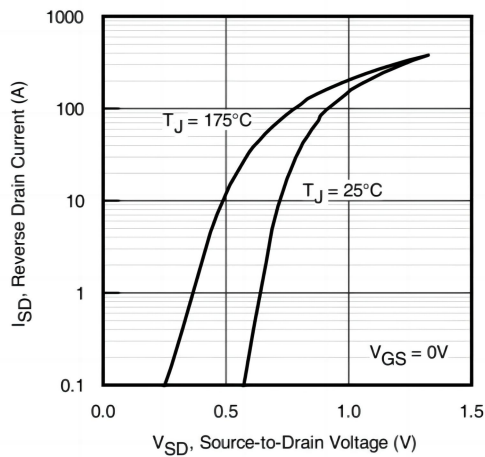
Typical Capacitance vs. Drain-to-Source Voltage



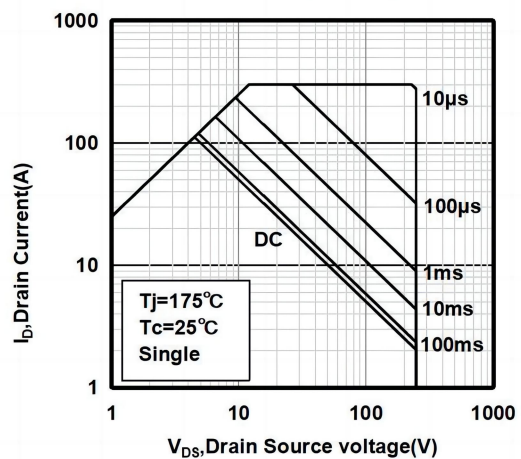
Typical Gate Charge vs. Gate-to-Source Voltage

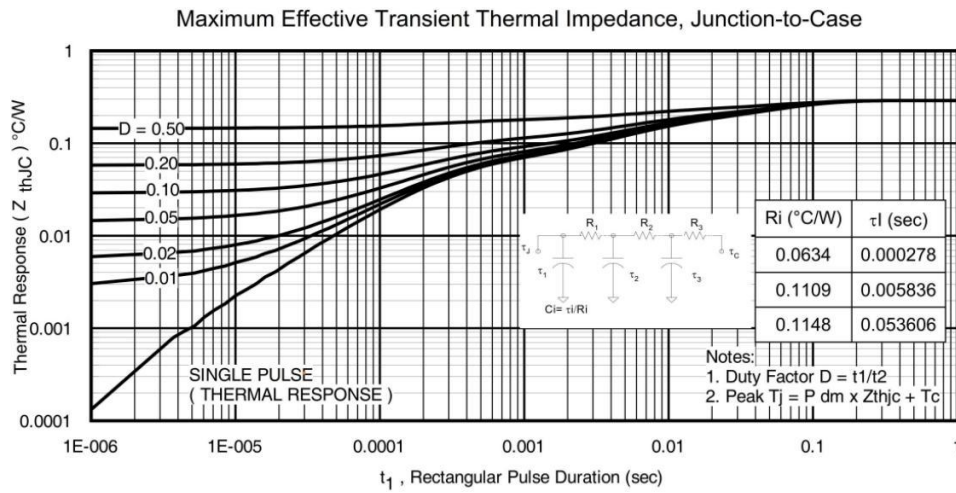
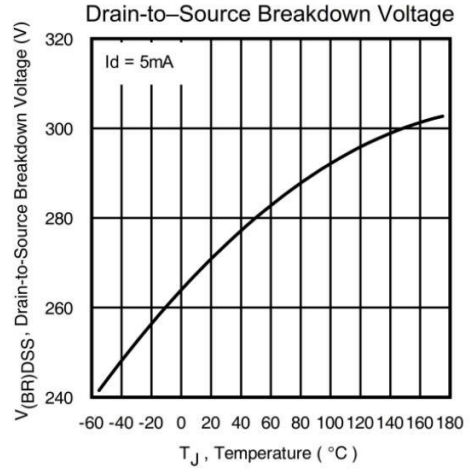
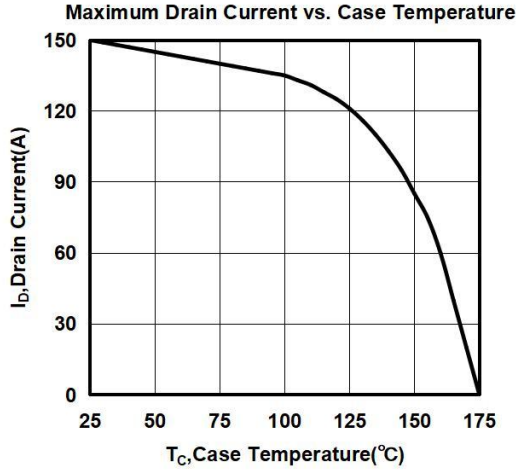


Typical Source-Drain Diode Forward Voltage



Maximum Safe Operating Area





Package Mechanical DATA

