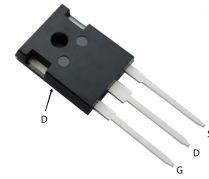


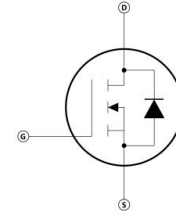
Features

- 100% avalanche tested
- Fast Intrinsic Diode
- Gate charge minimized
- Very low intrinsic capacitances
- High speed switching



Applications

- High Voltage Power Supplies
- PV Inverter
- Switching applications



Electrical ratings

Absolute maximum ratings			
Parameter	Symbol	Value	Unit
Drain-source voltage ($V_{GS} = 0$)	V_{DS}	3000	V
Gate- source voltage	V_{GS}	± 30	
Drain current (continuous) at $T_C = 25\text{ }^{\circ}\text{C}$	I_D	2.0	A
Drain current (continuous) at $T_C = 100\text{ }^{\circ}\text{C}$		1.6	
Drain current (pulsed)		6.0	
Total dissipation at $T_C = 25\text{ }^{\circ}\text{C}$	P_D	431	W
Avalanche Current	I_{AR}	1.3	A
Single pulse avalanche energy (starting $T_J = 25\text{ }^{\circ}\text{C}$, $I_D = I_{AR}$, $V_{DD} = 50$ $V, L=20\text{mH}$)	E_{AS}	16.9	mJ
Operating junction temperature	T_J	-55 ~ 150	$^{\circ}\text{C}$
Storage temperature	T_{stg}		
Maximum lead temperature for soldering purpose	T_L	300	$^{\circ}\text{C}$
Mounting Torque	M_d	1.13	N • m
Weight	G	6	g

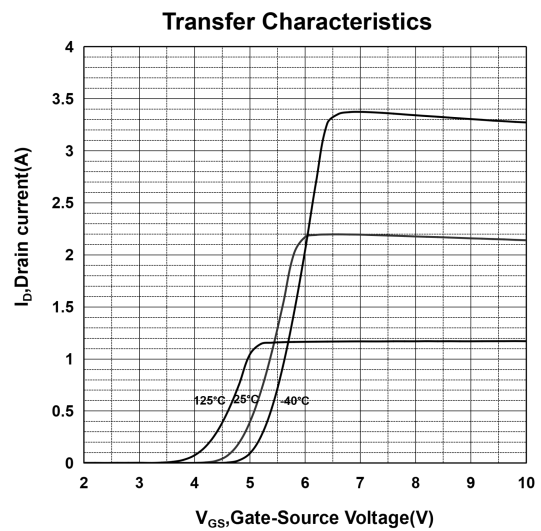
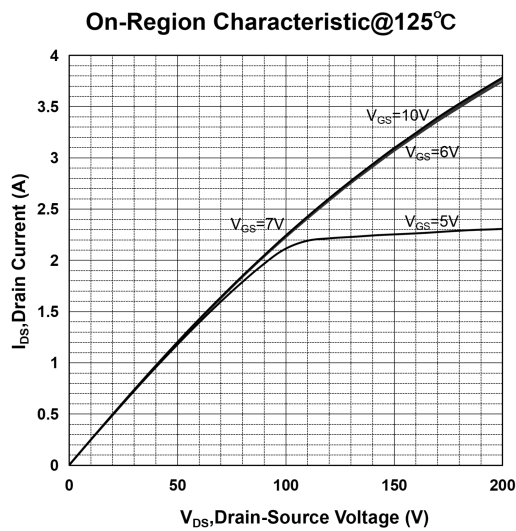
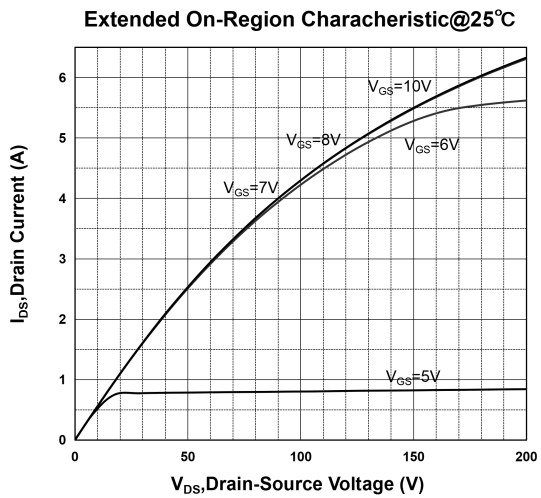
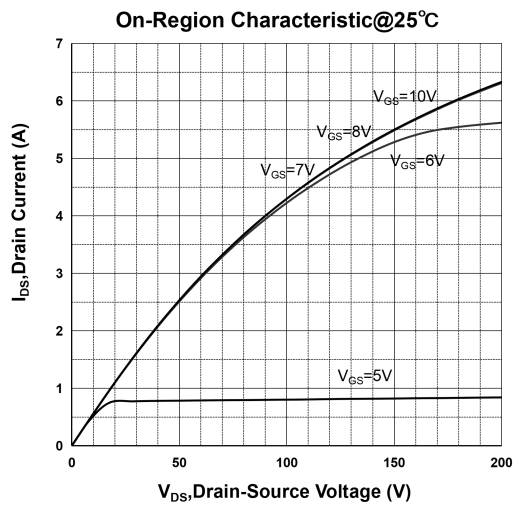
Electrical Characteristics ($T_{vj} = 25^{\circ}\text{C}$ unless otherwise specified)

On /off states						
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-source breakdown voltage	$V_{(BR)DSS}$	$I_D = 250\text{ }\mu\text{A}$, $V_{GS} = 0$	3000			V
Zero gate voltage drain current ($V_{GS} = 0$)	I_{DSS}	$V_{DS} = \text{Max rating}$ $V_{DS} = \text{Max rating}$, $T_C = 125\text{ }^{\circ}\text{C}$			10 250	μA

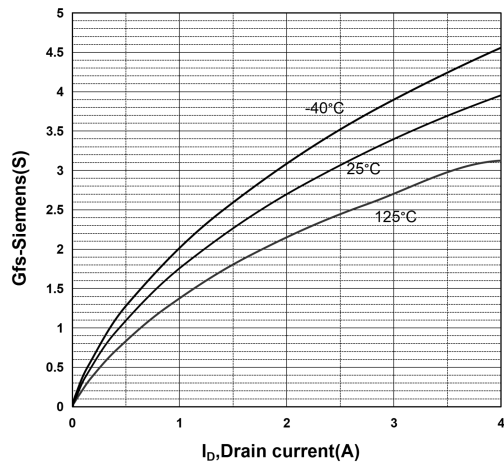
Gate-body leakage current (V _{DS} = 0)	I _{GSS}	V _{GS} = ± 30 V			±200	nA
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	3.5	-	5.5	V
Static drain-source on resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 2A	-	19	25	Ω
Dynamic						
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Forward transconductance	g _{fs}	V _{DS} = 50 V, I _D = 2A	1.2	2.7		S
Input capacitance	C _{iss}	V _{DS} =25V,f=1MHz,V _{GS} =0		2500		pF
Output capacitance	C _{oss}			191		
Reverse transfer capacitance	C _{rss}			55		
Total gate charge	Q _g	V _{DD} =1500V,I _D =2A V _{GS} =10V		80		nC
Gate-source charge	Q _{gs}			12		
Gate-drain charge	Q _{gd}			48		
Switching times						
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Turn-on delay time	t _{d(on)}	Resistive load V _{DD} = 1500 V, I _D =2A, V _{GS} = 10 V, R _G = 5Ω(External)		19		ns
Rise time	t _r			23		
Turn-off-delay time	t _{d(off)}			52		
Fall time	t _f			53		
Source drain diode						
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Source-drain current	I _{SD}				2	A
Source-drain current (pulsed)	I _{SDM}				8	
Forward on voltage	V _{SD}	I _{SD} = 1A, V _{GS} = 0		0.9	1.5	V
Reverse recovery time	t _{rr}	I _{SD} =2A, -di/dt=100A/μs V _{DD} = 1500V		600		ns
Reverse recovery charge	Q _{rr}			540		nC
Reverse recovery current	I _{RRM}			1.2		A
Reverse recovery time	t _{rr}	I _{SD} =2A, di/dt=100A/μs V _{DD} = 1500 V T _J =125°C		800		ns
Reverse recovery charge	Q _{rr}			420		nC
Reverse recovery current	I _{RRM}			1.5		A

Thermal data			
Parameter	Symbol	Value	Unit
Thermal resistance junction-case max	$R_{thj-case}$	0.29	W/°C
Thermal resistance junction-ambient max	$R_{thj-amb}$	50	

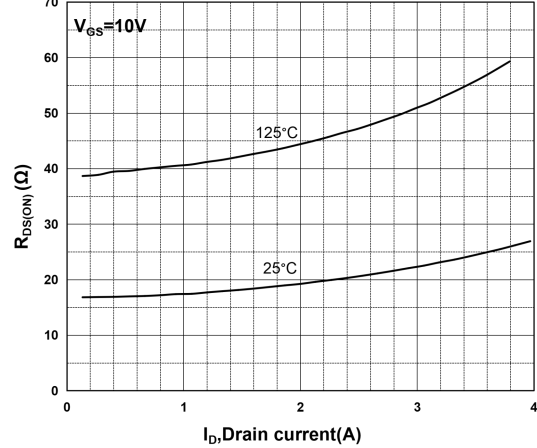
Electrical characteristics



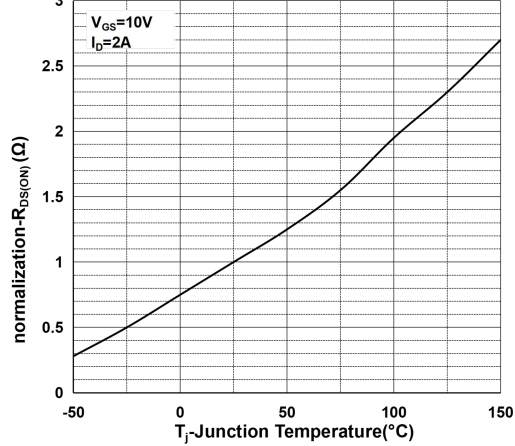
Transconductance



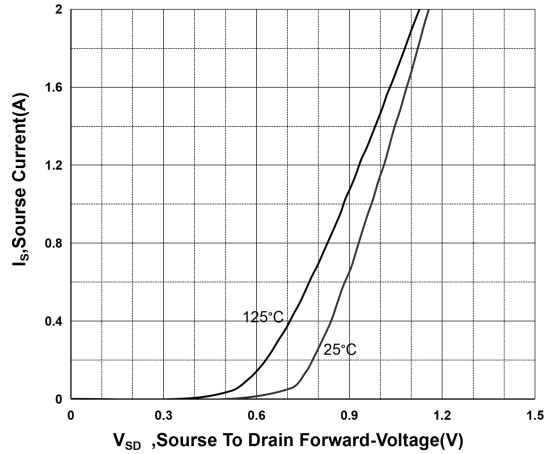
On-Resistance Variation vs Drain Current and Gate Voltage



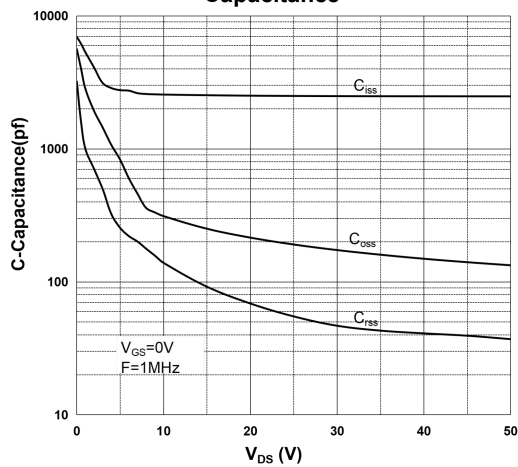
Normalization On-Resistance Variation vs Junction Temperature



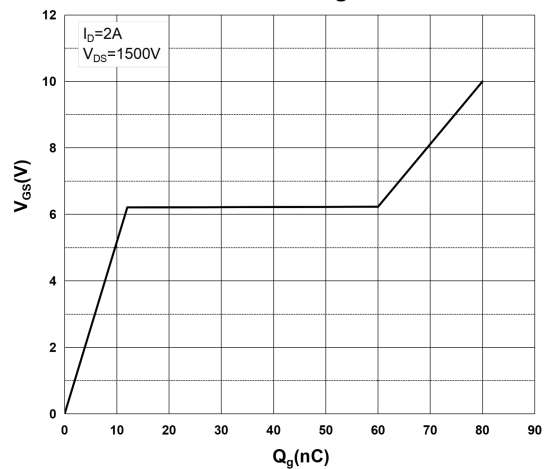
Body Diode Forward Voltage Variation with Source Current and Temperature



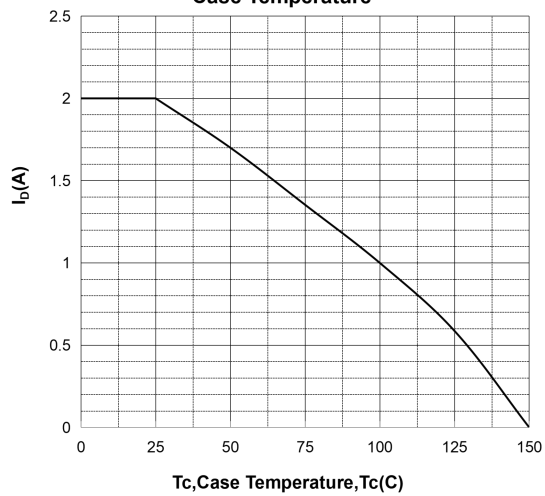
Capacitance



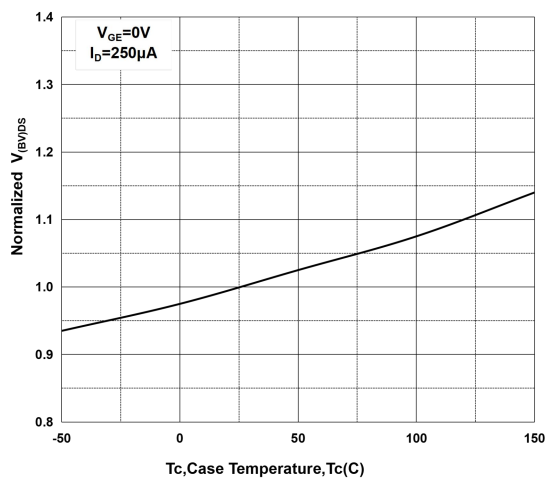
Gate Charge



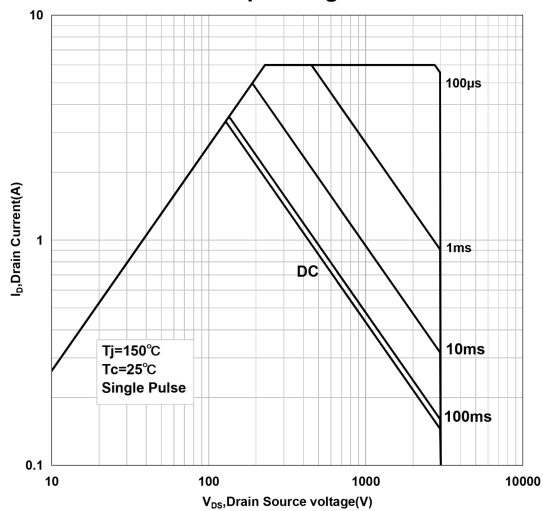
Maximum Drain Current vs Case Temperature



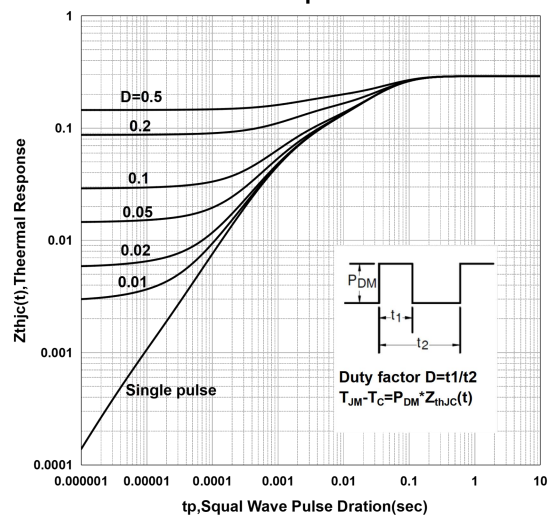
Normalized $V_{(BV)DS}$ vs temperature



Safe Operating Area



Transient response Curve



Package outline dimension

