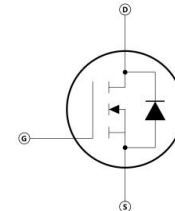
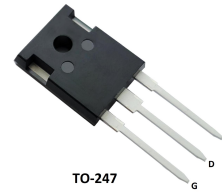


**Features**

- 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 ( $V_{GS} = 0$ )	$V_{DS}$	2500	V
Gate- source voltage	$V_{GS}$	$\pm 30$	
Drain current (continuous) at $T_C = 25\text{ }^\circ\text{C}$	$I_D$	4	A
Drain current (continuous) at $T_C = 100\text{ }^\circ\text{C}$		2.5	
Drain current (pulsed)	$I_{DM}$	12	
Total dissipation at $T_C = 25\text{ }^\circ\text{C}$	$P_D$	463	W
Single pulse avalanche energy (starting $T_J = 25\text{ }^\circ\text{C}$ , $I_D = I_{AR}$ , $V_{DD} = 50\text{ V}$ , $L=20\text{mH}$ )	$E_{AS}$	81	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** ( $T_{vj} = 25\text{ }^\circ\text{C}$  unless otherwise specified)

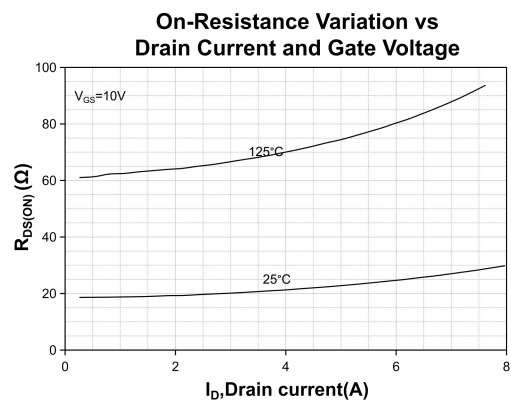
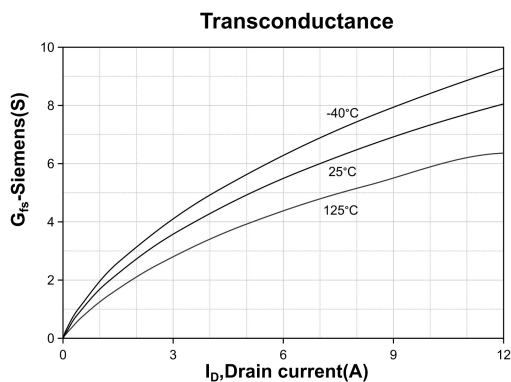
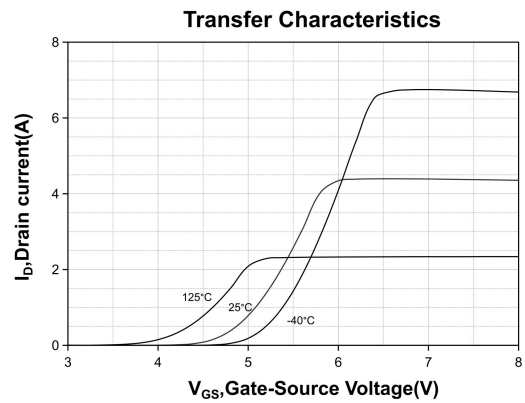
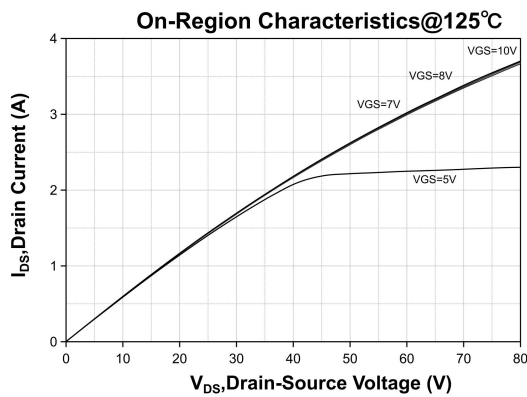
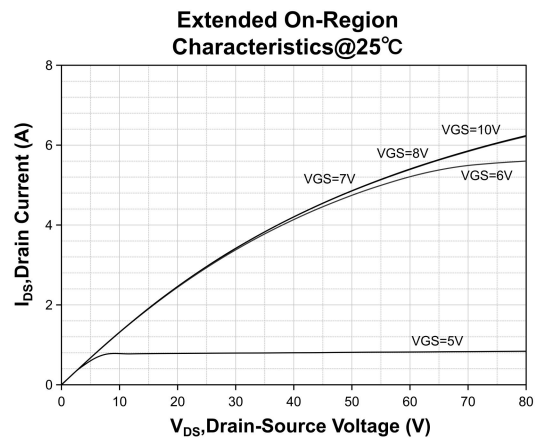
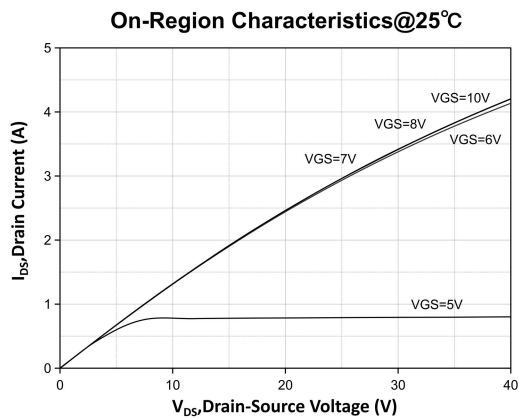
On /off states						
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-source breakdown voltage	$V_{(BR)DSS}$	$I_D = 250\text{ }\mu\text{A}$ , $V_{GS} = 0$	2500			V
Zero gate voltage drain current ( $V_{GS} = 0$ )	$I_{DSS}$	$V_{DS} = \text{Max rating}$ $V_{DS} = \text{Max rating}$ , $T_C = 125\text{ }^\circ\text{C}$			100 1000	$\mu\text{A}$

Gate-body leakage current ( $V_{DS} = 0$ )	$I_{GSS}$	$V_{GS} = \pm 30 V$			$\pm 200$	nA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250 \mu A$	3.5	-	5.5	V
Static drain-source on resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 2A$	-	19	25	$\Omega$

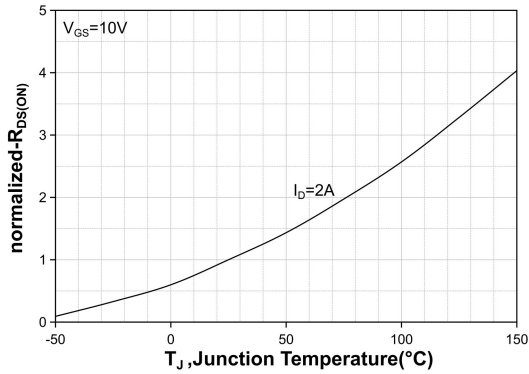
Dynamic							
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit	
Forward transconductance	$g_{fs}$	$V_{DS} = 50 V, I_D = 2A$	1.2	2.7		S	
Input capacitance	$C_{iss}$	$V_{DS}=25V, f=1MHz, V_{GS}=0$		1540		pF	
Output capacitance	$C_{oss}$			110			
Reverse transfer capacitance	$C_{rss}$			48			
Total gate charge	$Q_g$	$V_{DD}=1250V, I_D=2A$ $V_{GS}=10V$		74		nC	
Gate-source charge	$Q_{gs}$			7			
Gate-drain charge	$Q_{gd}$			43			
Switching times							
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit	
Turn-on delay time	$t_{d(on)}$	<b>Resistive load</b> $V_{DD} = 1250 V, I_D = 2A,$ $V_{GS} = 10 V,$ $R_G = 5\Omega(\text{External})$		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	$I_{SD}$				4	A	
Source-drain current (pulsed)	$I_{SDM}$				12		
Forward on voltage	$V_{SD}$	$I_{SD}= 4A, V_{GS}= 0$			1.5	V	
Reverse recovery time	$t_{rr}$	$I_{SD}=2A, -di/dt=100A/\mu s$ $V_{DD}= 100 V$		600		ns	
Reverse recovery charge	$Q_{rr}$				540		nC
Reverse recovery current	$I_{RRM}$				1.2		A
Reverse recovery time	$t_{rr}$	$I_{SD}=2A, di/dt=100A/\mu s$ $V_{DD}= 100 V T_J=150^\circ C$		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	$R_{thj-case}$	0.27	W/°C	
Thermal resistance junction-ambient max	$R_{thj-amb}$	50		

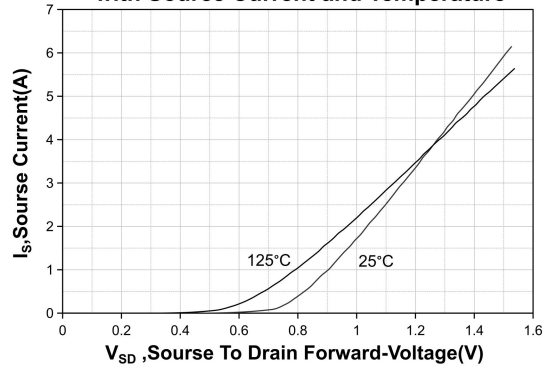
### Electrical characteristics



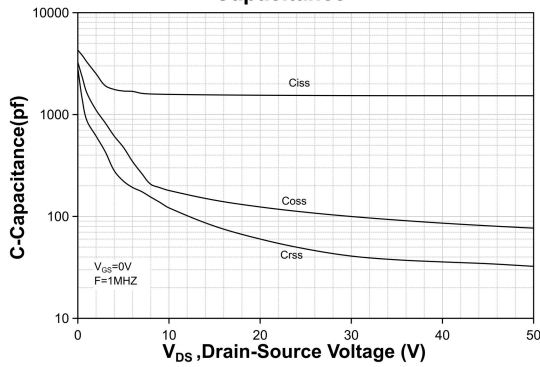
**On-Resistance Variation vs Temperature**



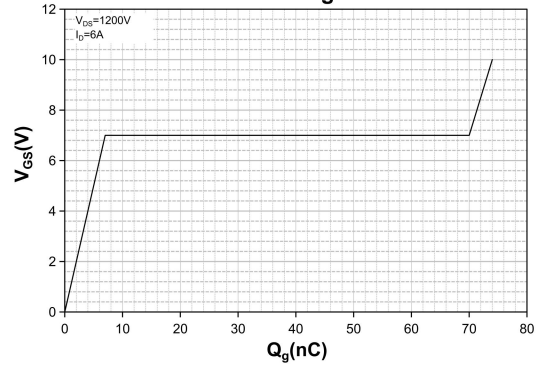
**Body Diode Forward Voltage Variation with Source Current and Temperature**



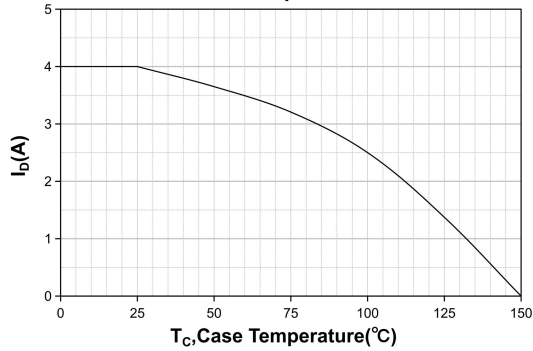
**Capacitance**



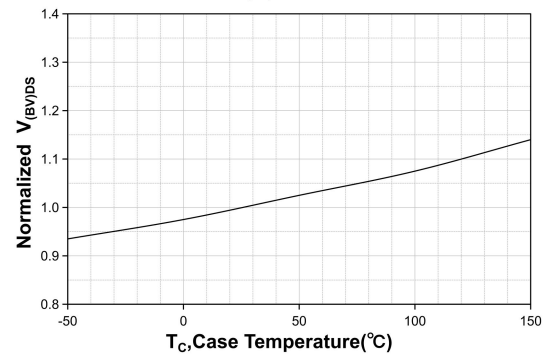
**Gate Charge**



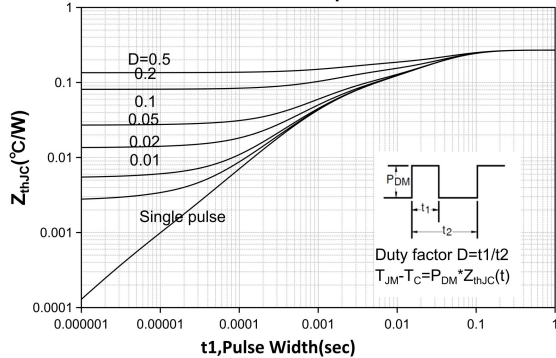
**Maximum Drain Current vs Case Temperature**



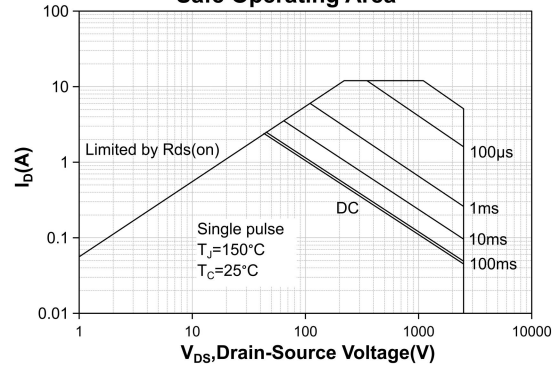
**Normalized  $V_{(BV)DS}$  vs temperature**



**Transient Thermal Response Curve**



**Safe Operating Area**



### Package outline dimension

