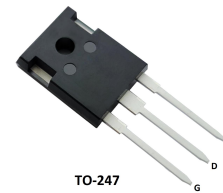


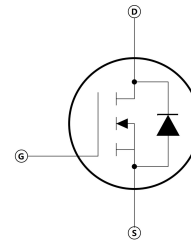
### Features

- 100% avalanche tested
- Avalanche ruggedness
- Very low intrinsic capacitances
- High speed switching
- Very low on-resistance



### Applications

- UPS
- Switching applications



### Electrical ratings

Absolute maximum ratings			
Parameter	Symbol	Value	Unit
Drain-source voltage ( $V_{GS} = 0$ )	$V_{DS}$	1700	V
Gate- source voltage	$V_{GS}$	$\pm 30$	
Avalanche current, repetitive or not-repetitive (pulse width limited by $T_J$ max)	$I_{AR}$	8	A
Single pulse avalanche energy (starting $T_J = 25\text{ }^\circ\text{C}$ , $I_D = I_{AR}$ , $V_{DD} = 50\text{ V}$ )	$E_{AS}$	800	mJ
Drain current (continuous) at $T_C = 25\text{ }^\circ\text{C}$	$I_D$	5	A
Drain current (continuous) at $T_C = 100\text{ }^\circ\text{C}$		3	
Drain current (pulsed)		$I_{DM}$	
Total dissipation at $T_C = 25\text{ }^\circ\text{C}$	$P_{TOT}$	337	W
Operating junction temperature	$T_J$	-55 to 175	$^\circ\text{C}$
Storage temperature	$T_{stg}$		
Maximum lead temperature for soldering purpose	$T_J$	300	$^\circ\text{C}$

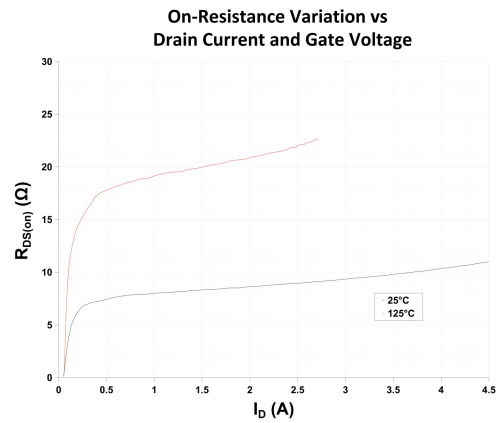
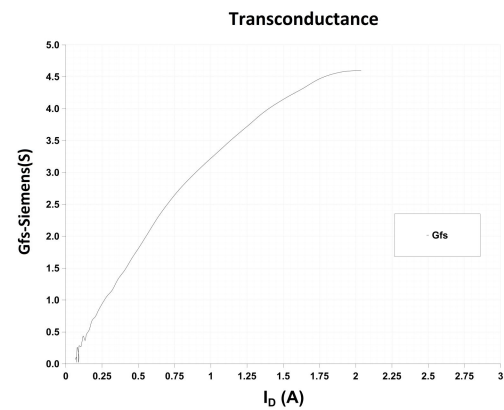
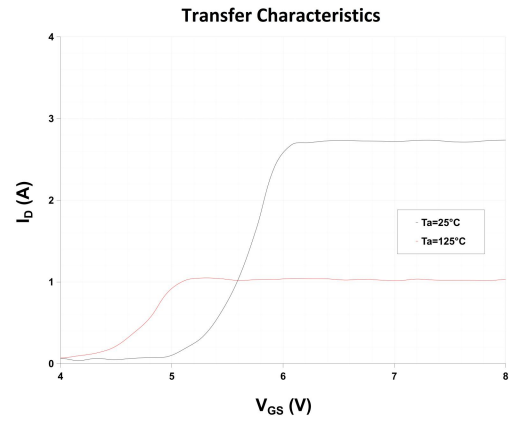
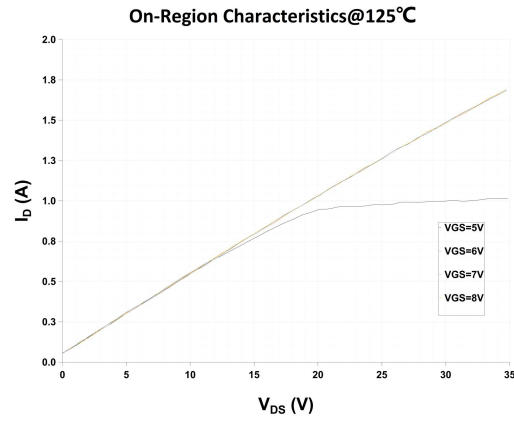
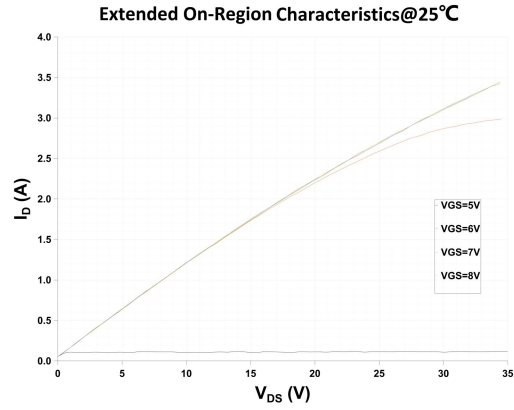
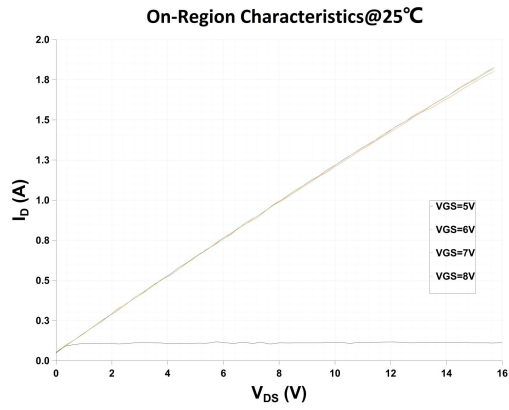
### Electrical Characteristics ( $T_{vj} = 25\text{ }^\circ\text{C}$ unless otherwise specified)

On /off states						
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-source breakdown voltage	$V_{(BR)DSS}$	$I_D = 1\text{ mA}$ , $V_{GS} = 0$	1700	-	-	V
Zero gate voltage drain current ( $V_{GS} = 0$ )	$I_{DSS}$	$V_{DS} = \text{Max rating}$ $V_{DS} = \text{Max rating}$ , $T_C = 125\text{ }^\circ\text{C}$	-	-	1	$\mu\text{A}$

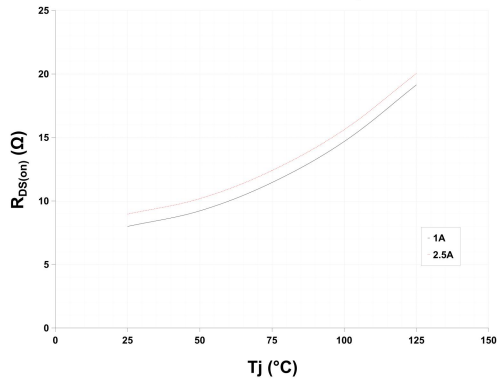
Gate-body leakage current ( $V_{DS} = 0$ )	$I_{GSS}$	$V_{GS} = \pm 30\text{ V}$	-	-	$\pm 100$	nA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\ \mu\text{A}$	3	4	5	V
Static drain-source on resistance	$R_{DS(on)}$	$V_{GS} = 10\text{V}, I_D = 1\text{A}$	-	9	-	$\Omega$
Transconductance	$G_{fs}$	$V_{DS} = 60\text{V}, I_D = 5\text{A}$	-	6.2	-	S
<b>Dynamic</b>						
<b>Parameter</b>	<b>Symbol</b>	<b>Test conditions</b>	<b>Min</b>	<b>Typ</b>	<b>Max</b>	<b>Unit</b>
Input capacitance	$C_{iss}$	$V_{DS}=100\text{V}, f=1\text{MHz}, V_{GS}=0\text{V}$	-	790	-	pF
Output capacitance	$C_{oss}$		-	101	-	
Reverse transfer capacitance	$C_{rss}$		-	14	-	
Total gate charge	$Q_g$	$V_{DD}=1360\text{V}, I_D=2.5\text{A}, V_{GS}=10\text{V}$	-	49.8	-	nC
Gate-source charge	$Q_{gs}$		-	4	-	
Gate-drain charge	$Q_{gd}$		-	25.8	-	
<b>Switching times</b>						
<b>Parameter</b>	<b>Symbol</b>	<b>Test conditions</b>	<b>Min</b>	<b>Typ</b>	<b>Max</b>	<b>Unit</b>
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 1360\text{V}, I_D = 2.5\text{A}, R_G = 25\ \Omega, V_{GS} = 10\text{ V}$	-	49.3	-	ns
Rise time	$t_r$		-	24.3	-	
Turn-off-delay time	$t_{d(off)}$		-	79.1	-	
Fall time	$t_f$		-	24.3	-	
<b>Source drain diode</b>						
<b>Parameter</b>	<b>Symbol</b>	<b>Test conditions</b>	<b>Min</b>	<b>Typ</b>	<b>Max</b>	<b>Unit</b>
Source-drain current	$I_{SD}$		-	5	-	A
Source-drain current (pulsed)	$I_{SDM}$		-	11	-	
Forward on voltage	$V_{SD}$	$I_{SD} = 5\text{ A}, V_{GS} = 0$	-	0.9	-	V
Reverse recovery time	$t_{rr}$	$I_{SD} = 5\text{A}, di/dt = 100\text{A}/\mu\text{s}$	-	2.38	-	$\mu\text{S}$
Reverse recovery charge	$Q_{rr}$	$V_{DD} = 60\text{ V}$	-	7.6	-	$\mu\text{C}$

<b>Thermal data</b>			
Parameter	Symbol	Value	Unit
Thermal resistance junction-case max	$R_{thj-case}$	0.37	$W/^{\circ}\text{C}$
Thermal resistance junction-ambient max	$R_{thj-amb}$	30.64	

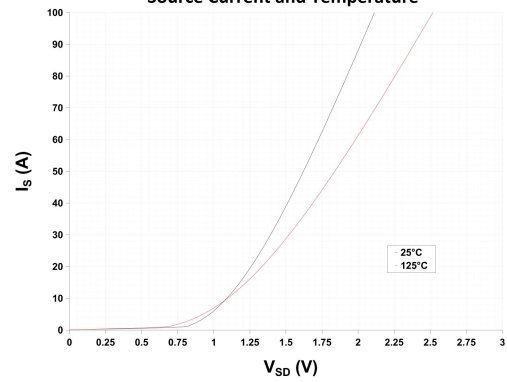
### Electrical characteristics



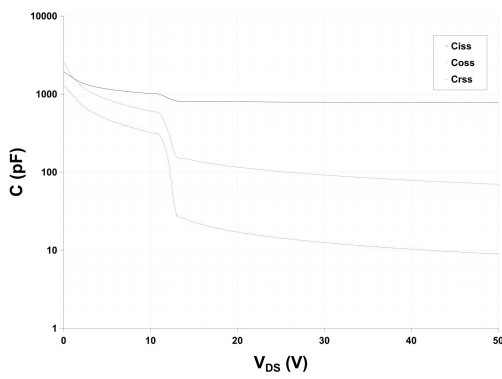
On-Resistance Variation vs Temperature



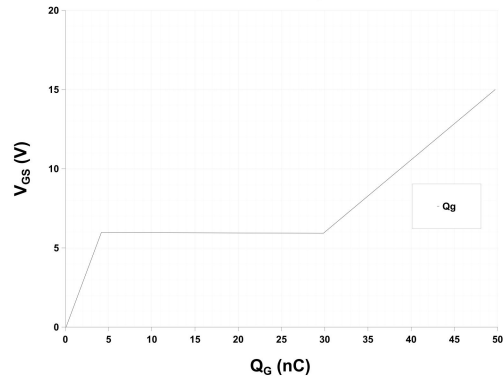
Body Diode Forward Voltage Variation with Source Current and Temperature



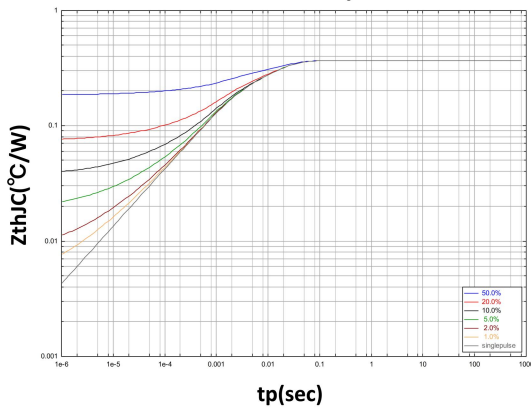
Capacitance



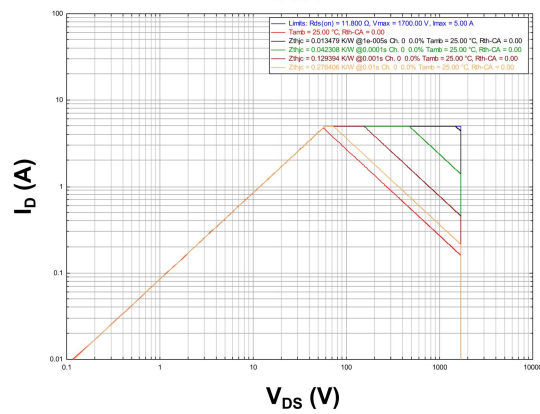
Gate Charge



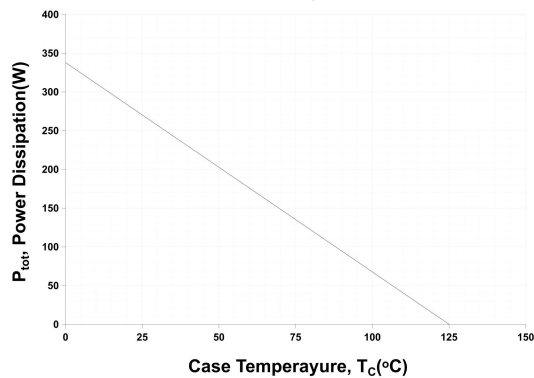
Transient Thermal Response Curve



SOA



Power Dissipation



## Package outline dimension

