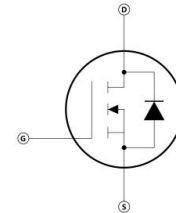
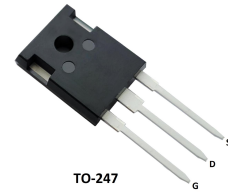


Features

- 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}	2000	V
Gate- source voltage	V_{GS}	± 30	
Drain current (continuous) at $T_C = 25^\circ\text{C}$	I_D	5	A
Drain current (continuous) at $T_C = 100^\circ\text{C}$		3	
Drain current (pulsed)	I_{DM}	15	
Total dissipation at $T_C = 25^\circ\text{C}$	P_D	625	W
Avalanche Current	I_{AR}	2.8	A
Single pulse avalanche energy (starting $T_J = 25^\circ\text{C}$, $I_D = I_{AR}$, $V_{DD} = 50\text{ V}$, $L=20\text{mH}$)	E_{AS}	78.4	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)

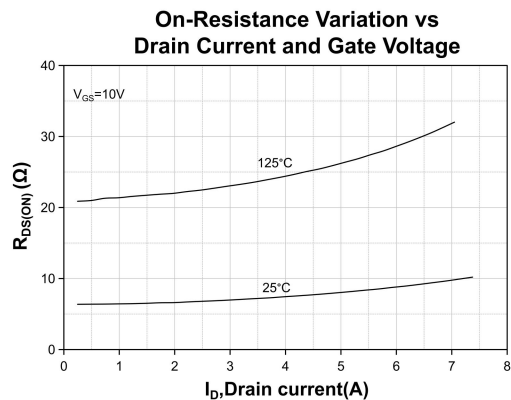
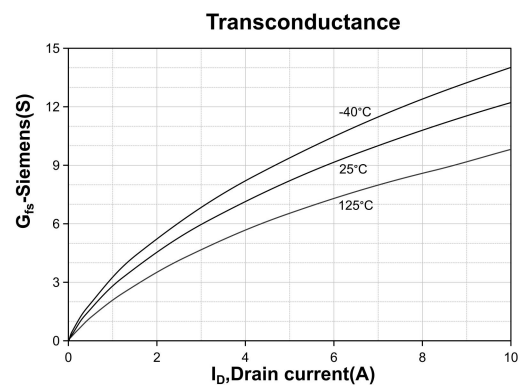
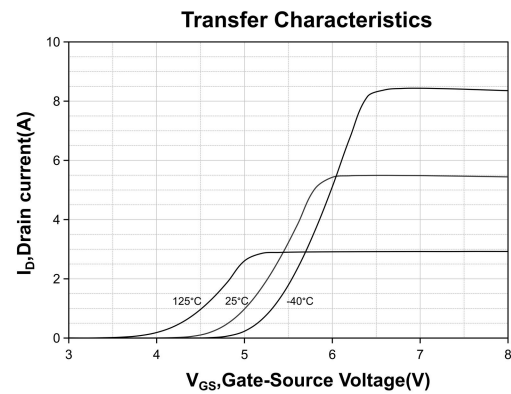
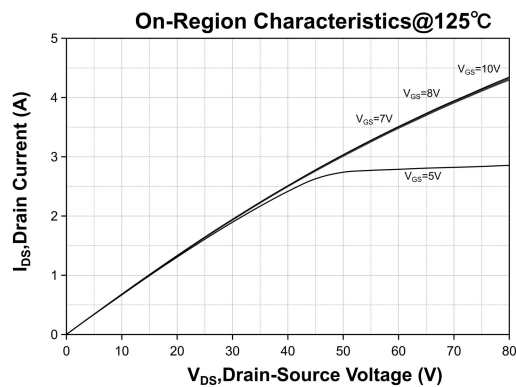
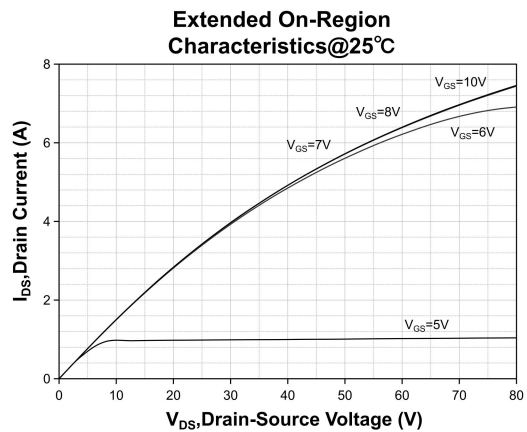
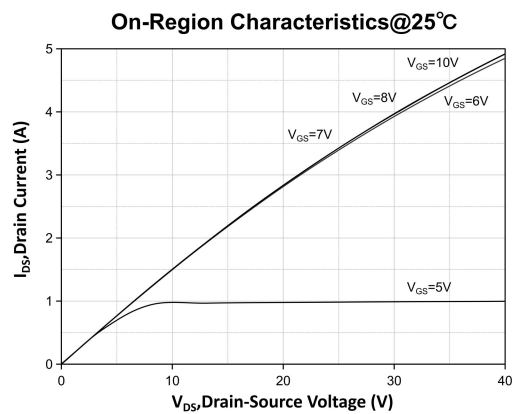
On /off states						
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-source breakdown voltage	$V_{(BR)DSS}$	$I_D = 250\text{ }\mu\text{A}$, $V_{GS} = 0$	2000	-	-	V
Zero gate voltage drain current ($V_{GS} = 0$)	I_{DSS}	$V_{GS} = 0$, $V_{DS} = \text{Max rating}$, $T_C = 125^\circ\text{C}$	-	-	100 1000	μA

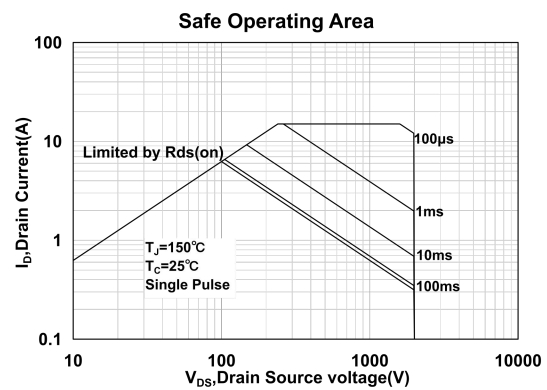
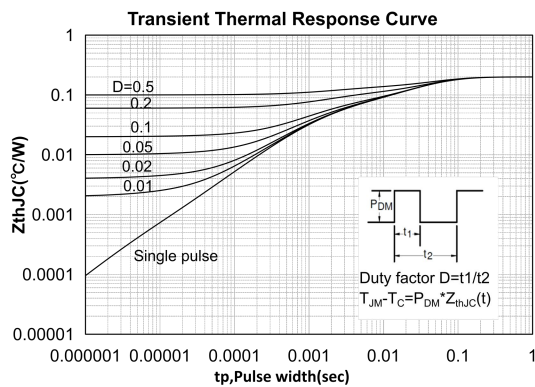
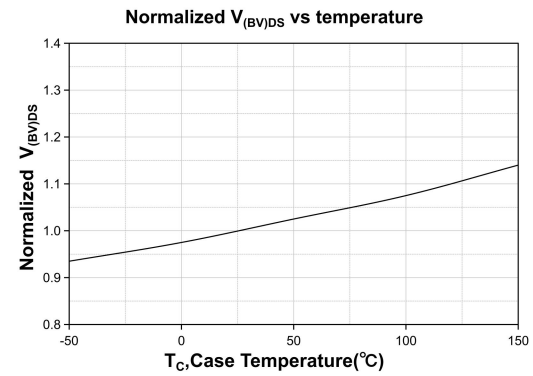
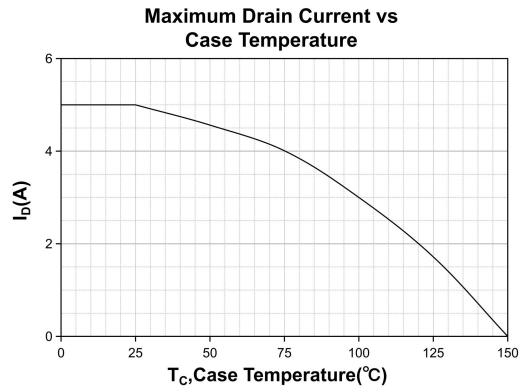
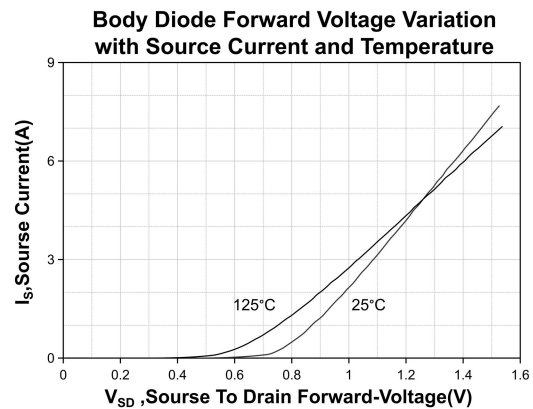
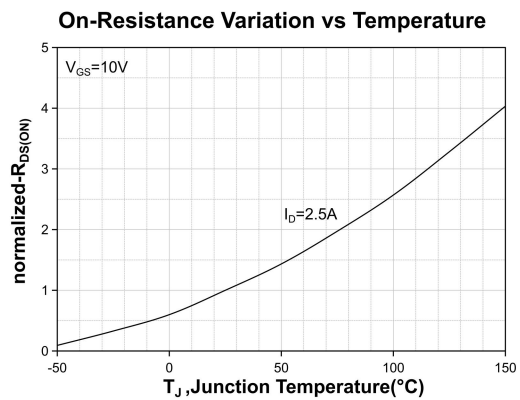
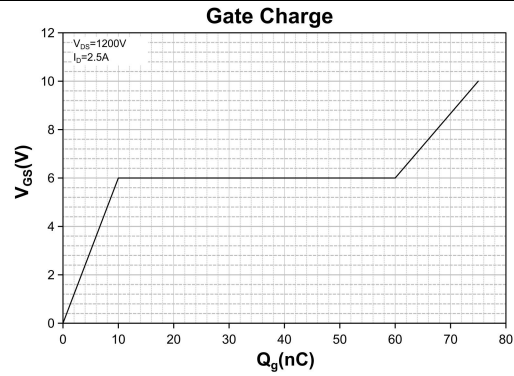
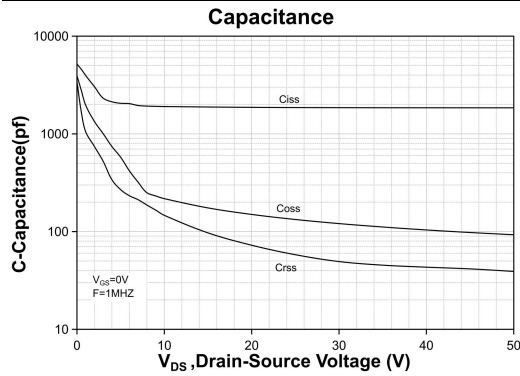
Gate-body leakage current (V _{DS} = 0)	I _{GSS}	V _{GS} = ± 30 V	-	-	±200	nA
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	3.5	-	5.5	V
Static drain-source on resistance	R _{DS(on)}	V _{GS} = 10V, I _D =2.5A	-	8	10	Ω
Dynamic Characteristics						
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Forward transconductance	g _{fs}	V _{DS} = 50 V, I _D = 2.5A	3.8	6.3	-	S
Input capacitance	C _{iss}	V _{DS} =25V,f=1MHz,V _{GS} =0	-	1860	-	pF
Output capacitance	C _{oss}		-	133	-	
Reverse transfer capacitance	C _{rss}		-	58	-	
Total gate charge	Q _g	V _{DD} =1000V,I _D =2.5A V _{GS} =10V	-	75	-	nC
Gate-source charge	Q _{gs}		-	10	-	
Gate-drain charge	Q _{gd}		-	50	-	
Switching times						
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Turn-on delay time	t _{d(on)}	Resistive load V _{DD} = 1000 V, I _D =2.5A, V _{GS} = 10 V, R _G = 5 Ω(External)	-	32	-	ns
Rise time	t _r		-	45	-	
Turn-off-delay time	t _{d(off)}		-	86	-	
Fall time	t _f		-	78	-	
Source drain diode						
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Source-drain current	I _{SD}		-	-	5	A
Source-drain current (pulsed)	I _{SDM}		-	-	15	
Forward on voltage	V _{SD}	I _{SD} = 2.5A, V _{GS} = 0	-	-	1.5	V
Reverse recovery time	t _{rr}	I _{SD} = 2.5A, di/dt=100A/μs V _{DD} = 100 V	-	560	-	ns
Reverse recovery charge	Q _{rr}		-	420	-	nC
Reverse recovery current	I _{RRM}		-	2.2	-	A
Reverse recovery time	t _{rr}	I _{SD} =2.5A, -di/dt=100A/μs V _{DD} =100V T _J =150°C	-	420	-	ns
Reverse recovery charge	Q _{rr}		-	380	-	nC
Reverse recovery current	I _{RRM}		-	1.8	-	A

Thermal data

Parameter	Symbol	Value	Unit
Thermal resistance junction-case max	$R_{thj-case}$	0.20	$W/^{\circ}C$
Thermal resistance junction-ambient max	$R_{thj-amb}$	40	

Electrical characteristics





Package outline dimension

