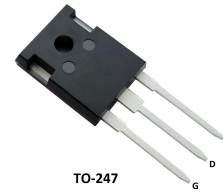
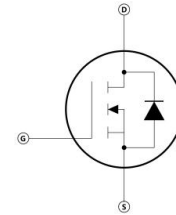


Features

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


Applications

- PV Inverter
- Switching applications


Electrical ratings

Absolute maximum ratings			
Parameter	Symbol	Value	Unit
Drain-source voltage ($V_{GS} = 0$)	V_{DS}	1650	V
Gate- source voltage	V_{GS}	± 30	
Drain current (continuous) at $T_C = 25\text{ }^\circ\text{C}$	I_D	15	A
Drain current (continuous) at $T_C = 100\text{ }^\circ\text{C}$		11	
Drain current (pulsed)	I_{DM}	60	
Total dissipation at $T_C = 25\text{ }^\circ\text{C}$	P_D	120	W
Derating factor		2.56	W/ $^\circ\text{C}$
Operating junction temperature	T_J	-55 ~ 150	$^\circ\text{C}$
Storage temperature	T_{stg}		
Single pulse avalanche energy (starting $T_J = 25\text{ }^\circ\text{C}$, $I_D = I_{AR}$, $V_{DD} = 50\text{ V}$)	EAS	800	mJ

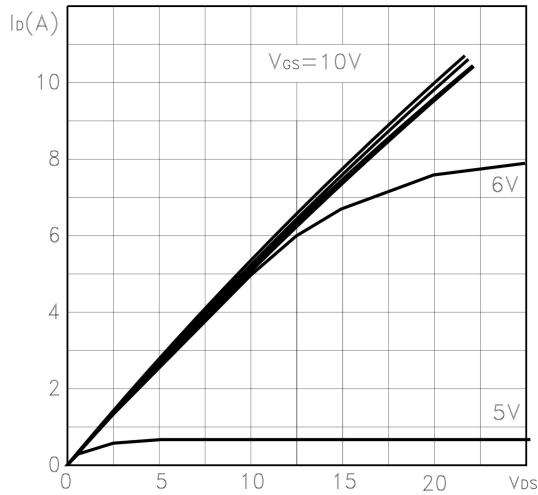
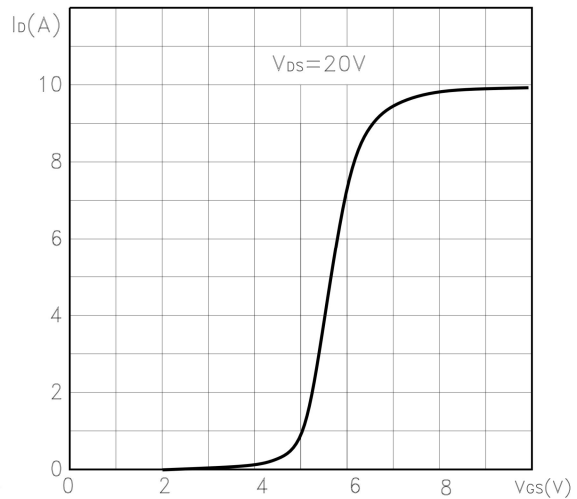
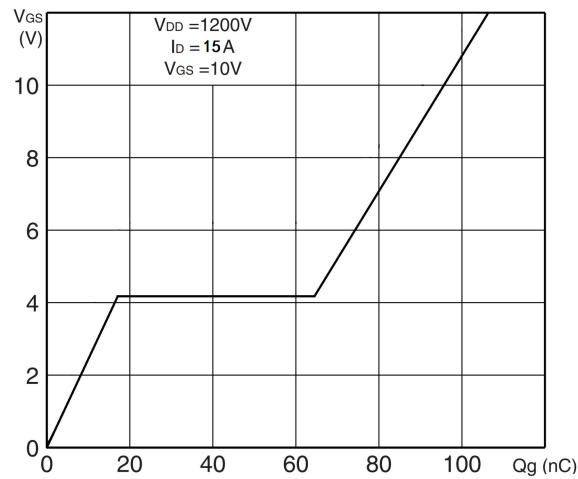
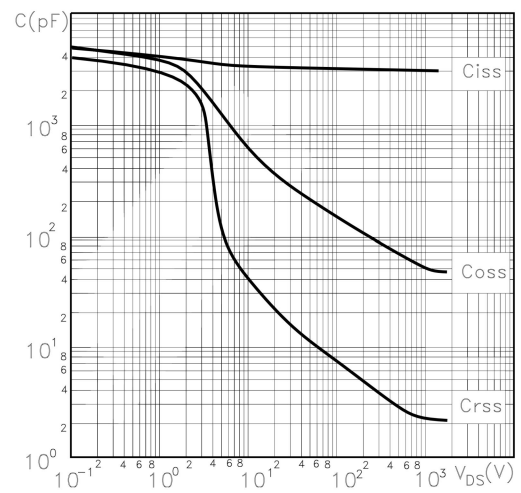
Electrical Characteristics ($T_{vj} = 25\text{ }^\circ\text{C}$ unless otherwise specified)

On /off states						
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-source breakdown voltage	$V_{(BR)DSS}$	$I_D = 1\text{ mA}$, $V_{GS} = 0$	1650			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	μA
Gate-body leakage current ($V_{DS} = 0$)	I_{GSS}	$V_{GS} = \pm 30\text{ V}$			± 200	nA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 250\text{ }\mu\text{A}$	3	4	5	V
Static drain-source on resistance	$R_{DS(on)}$	$V_{GS} = 10\text{V}$, $I_D = 1\text{A}$	-	1.75	2.2	Ω

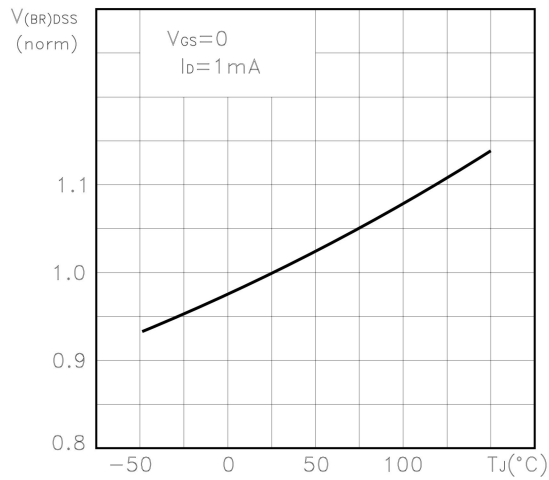
Dynamic						
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Forward transconductance	g_{fs}	$V_{DS} = 15\text{ V}, I_D = 4$		7		S
Input capacitance	C_{iss}	$V_{DS}=25\text{V}, f=1\text{MHz}, V_{GS}=0$		5100		pF
Output capacitance	C_{oss}			505		
Reverse transfer capacitance	C_{rss}			42.5		
Total gate charge	Q_g	$V_{DD}=1200\text{V}, I_D=15\text{A}$ $V_{GS}=10\text{V}$		42		nC
Gate-source charge	Q_{gs}			14		
Gate-drain charge	Q_{gd}			48		
Switching times						
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 750\text{ V}, I_D = 7\text{ A},$ $R_G = 4.7\ \Omega, V_{GS} = 10\text{ V}$		50		ns
Rise time	t_r			16		
Turn-off-delay time	$t_{d(off)}$			100		
Fall time	t_f			80		
Source drain diode						
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Source-drain current	I_{SD}			12		A
Source-drain current (pulsed)	I_{SDM}			48		
Forward on voltage	V_{SD}	$I_{SD}= 15\text{ A}, V_{GS}= 0$		1.5		V
Reverse recovery time	t_{rr}	$I_{SD}= 15\text{ A}, di/dt=100\text{A}/\mu\text{s}$ $V_{DD}= 60\text{ V}$		950		ns
Reverse recovery charge	Q_{rr}			9		μC
Reverse recovery current	I_{RRM}			20		A
Reverse recovery time	t_{rr}	$S_D=15\text{A}, di/dt=100\text{A}/\mu\text{s}$ $V_{DD}= 60\text{V } T_J=150^\circ\text{C}$		900		ns
Reverse recovery charge	Q_{rr}			8.5		μC
Reverse recovery current	I_{RRM}			19		A
Thermal data						
Parameter		Symbol	Value		Unit	
Thermal resistance junction-case max		$R_{thj-case}$	1		$W/^\circ\text{C}$	

Thermal resistance junction-ambient max	$R_{thj-amb}$	50	
Maximum lead temperature for soldering purpose	T_J	300	

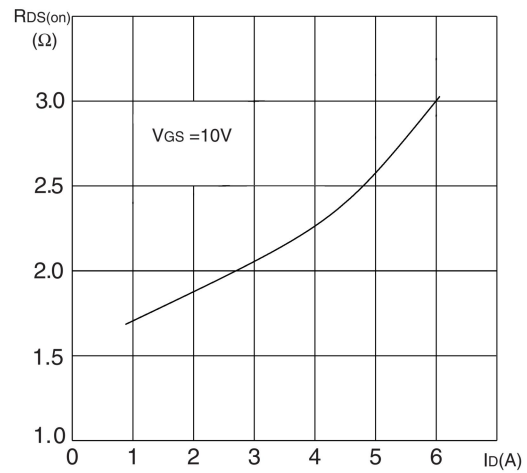
Electrical characteristics

Output characteristics

Transfer characteristics

Gate charge vs gate-source voltage

Capacitance variations


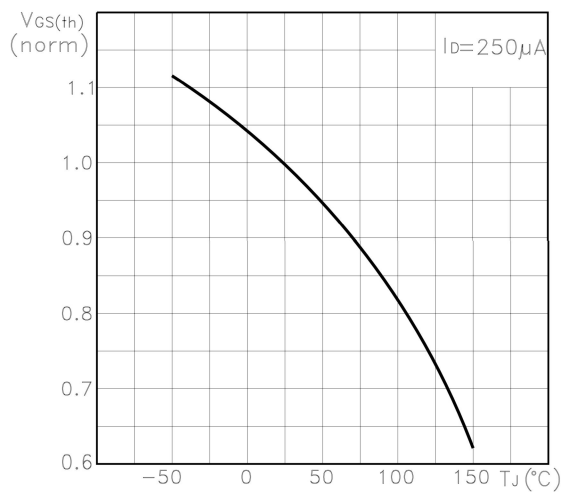
Normalized BVDSS vs temperature



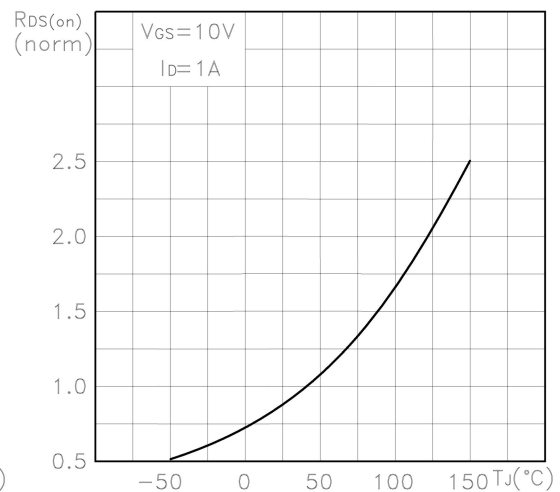
Static drain-source on resistance



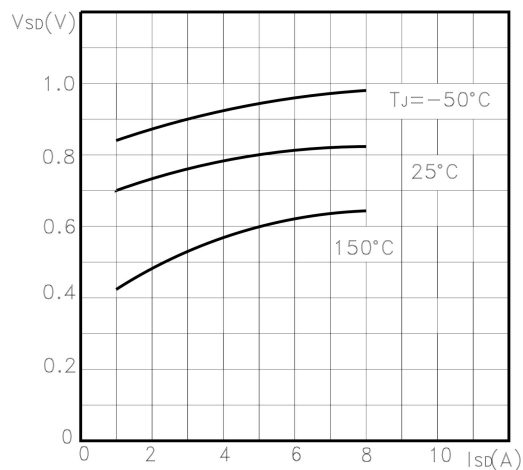
Normalized gate threshold voltage vs temperature



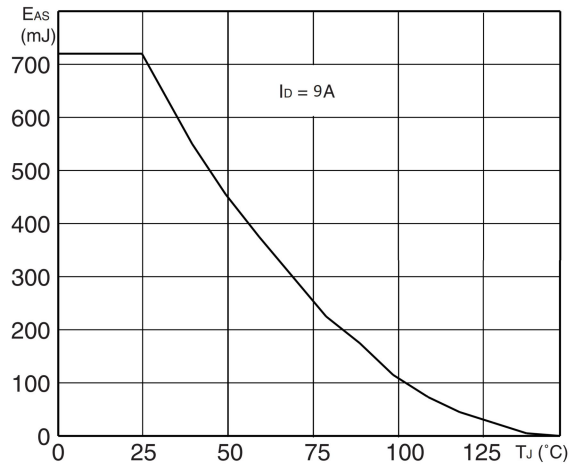
Normalized on resistance vs temperature

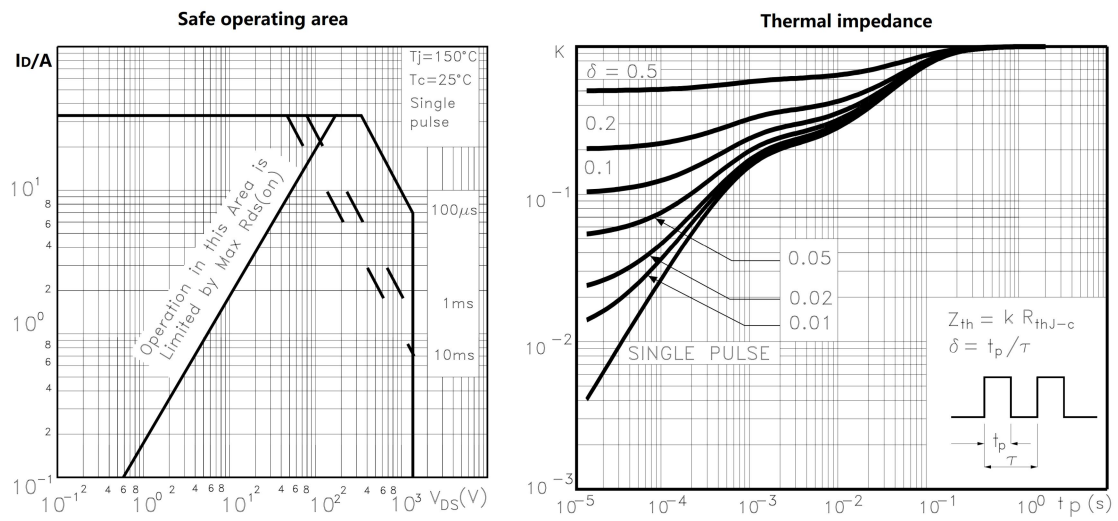


Source-drain diode forward characteristics



Maximum avalanche energy vs temperature





Package outline dimension

