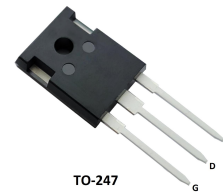
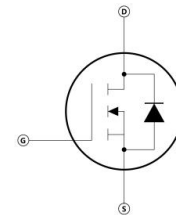


Features

- 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}	1700	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	176	W
Derating factor		2.56	W/ $^\circ\text{C}$
Operating junction temperature	T_J	-55 ~ 150	$^\circ\text{C}$
Storage temperature	T_{stg}		
Maximum current during repetitive or single pulse avalanche(Pulse width limited by T_{Jmax})	I_{AS}	3	A
Single pulse avalanche energy (starting $T_J = 25\text{ }^\circ\text{C}$, $I_D = I_{AR}$, $V_{DD} = 50\text{ V}$)	E_{AS}	720	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	$V_{(BR)DSS}$	$I_D = 1\text{ mA}$, $V_{GS} = 0$	1700			V
Zero gate voltage drain current ($V_{GS} = 0$)	I_{DSS}	$V_{DS} = \text{Max rating}$ $V_{DS} = \text{Max rating}$, $T_C = 125\text{ }^\circ\text{C}$			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	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 1A$	-	1.75	2.5	Ω
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Dynamic

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Forward transconductance	g_{fs}	$V_{DS} = 15V, I_D = 4$		7		S
Input capacitance	C_{iss}	$V_{DS}=25V, f=1MHz, V_{GS}=0$		5100		pF
Output capacitance	C_{oss}			505		
Reverse transfer capacitance	C_{rss}			42.5		
Total gate charge	Q_g	$V_{DD}=1200V, I_D=15A$ $V_{GS}=10V$		42		nC
Gate-source charge	Q_{gs}			14		
Gate-drain charge	Q_{gd}			48		

Switching times

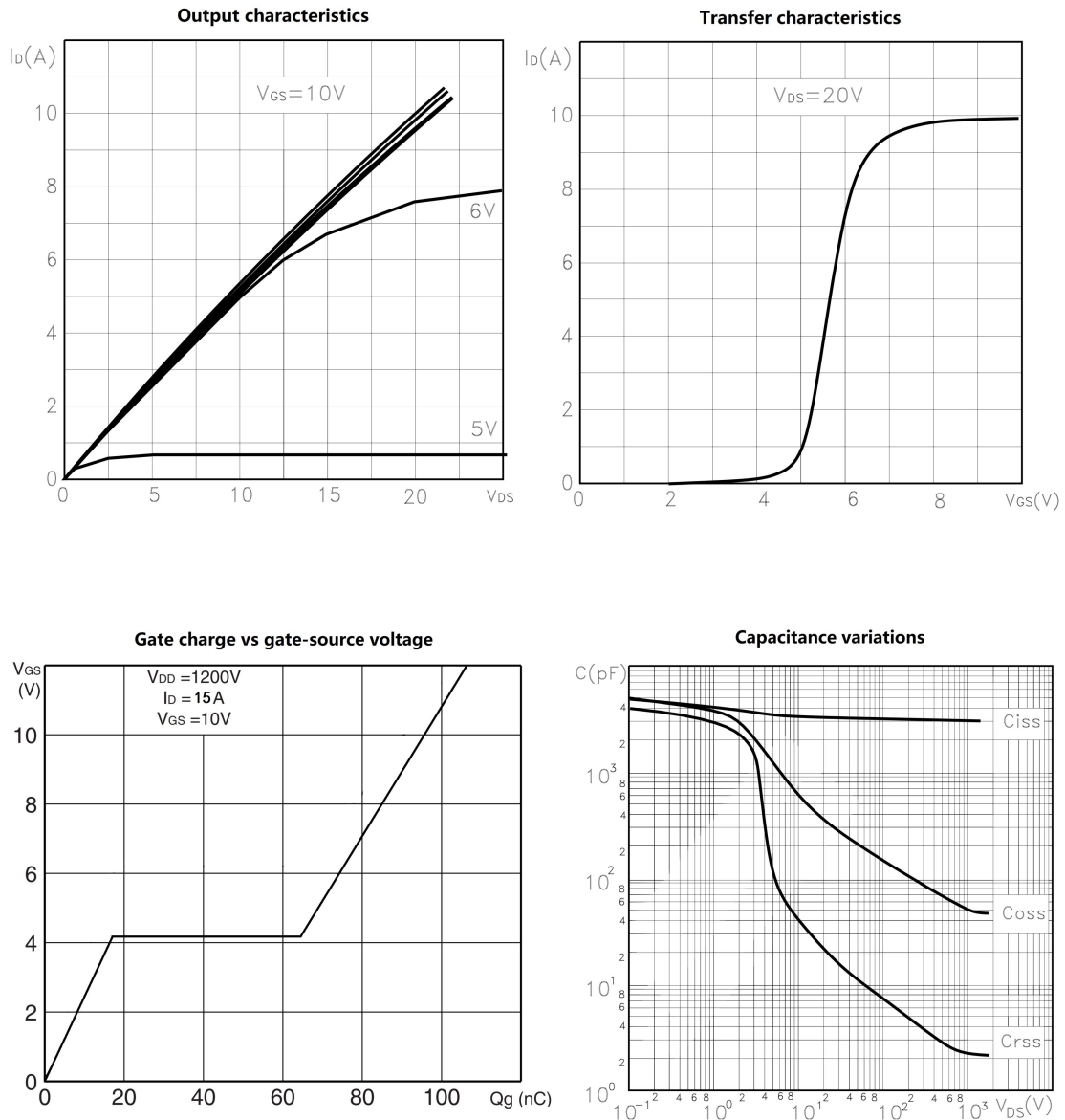
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 750V, I_D = 7A,$ $R_G = 4.7\Omega, V_{GS} = 10V$		50		ns
Rise time	t_r			16		
Turn-off-delay time	$t_{d(off)}$			100		
Fall time	t_f			80		

Source drain diode

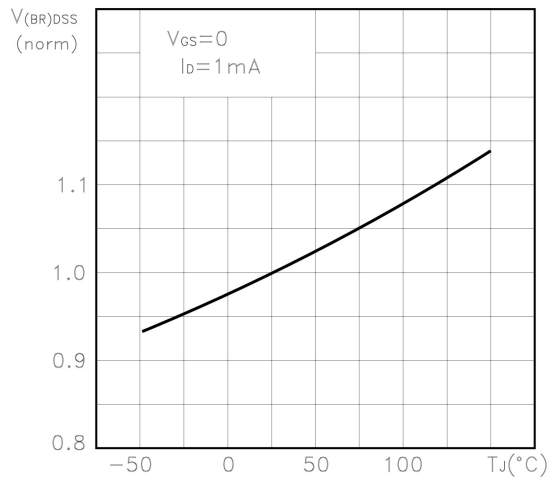
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Source-drain current	I_{SD}			12		A
Source-drain current (pulsed)	I_{SDM}			48		
Forward on voltage	V_{SD}	$I_{SD}= 15A, V_{GS}= 0$		1.5		V
Reverse recovery time	t_{rr}	$I_{SD}= 15A, di/dt=100A/\mu s$ $V_{DD}= 60V$		950		ns
Reverse recovery charge	Q_{rr}			9		μC
Reverse recovery current	I_{RRM}			20		A
Reverse recovery time	t_{rr}	$S_D=15A, di/dt=100A/\mu s$ $V_{DD}= 60V T_J=150^\circ C$		900		ns
Reverse recovery charge	Q_{rr}			8.5		μC
Reverse recovery current	I_{RRM}			19		A

Thermal data

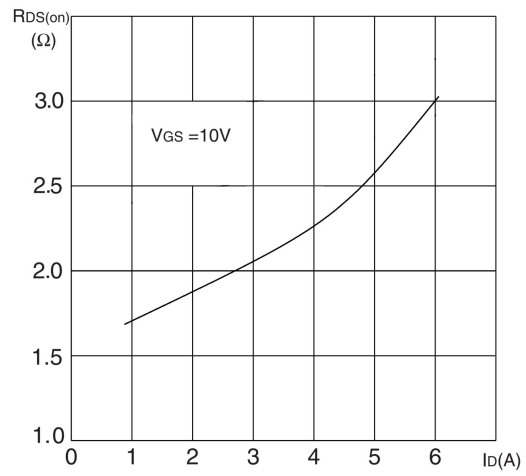
Parameter	Symbol	Value	Unit
Thermal resistance junction-case max	$R_{thj-case}$	0.71	W/°C
Thermal resistance junction-ambient max	$R_{thj-amb}$	50	
Maximum lead temperature for soldering purpose	T_J	300	

Electrical characteristics(curve)


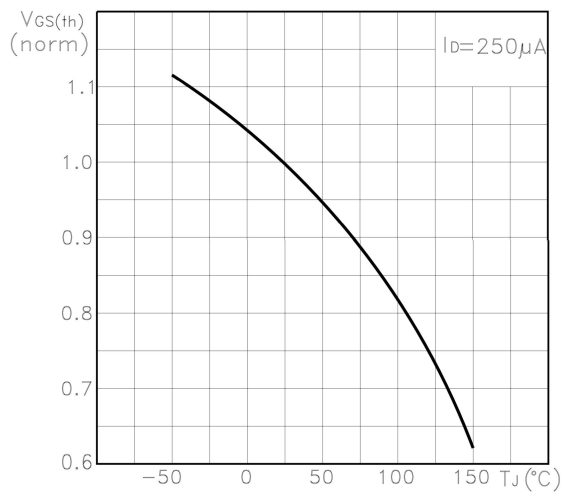
Normalized BVDS vs temperature



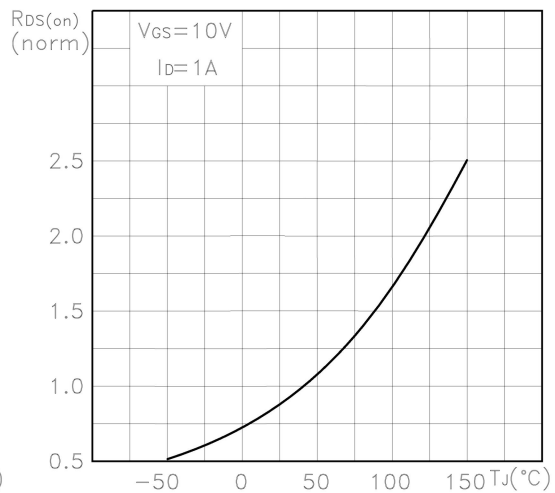
Static drain-source on resistance



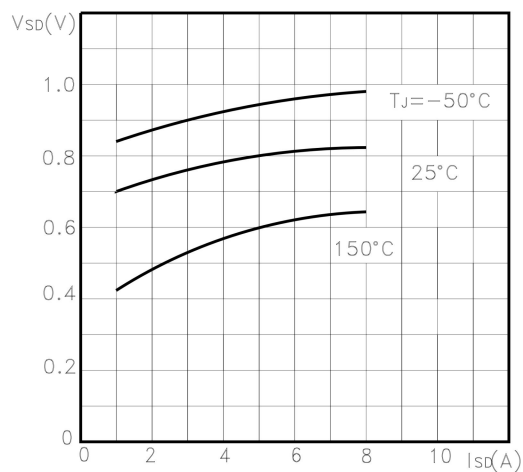
Normalized gate threshold voltage vs temperature



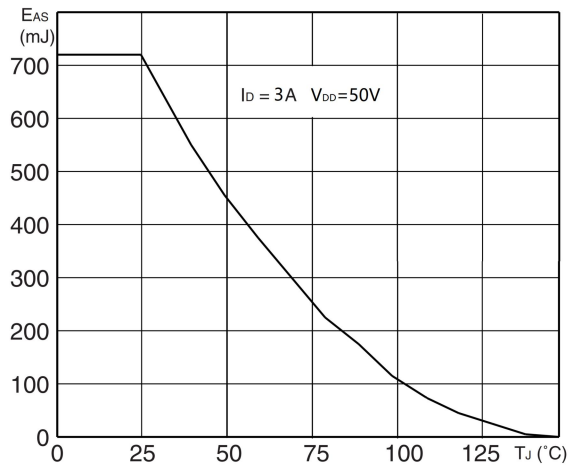
Normalized on resistance vs temperature

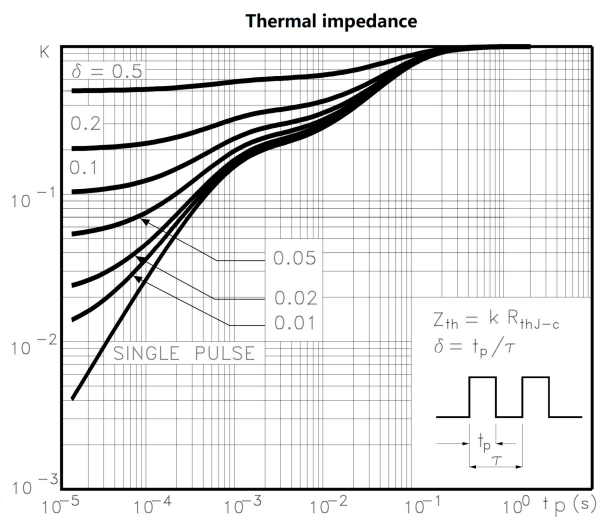
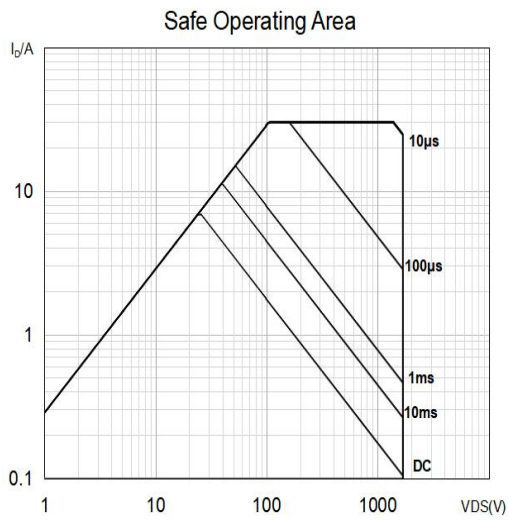


Source-drain diode forward characteristics



Maximum avalanche energy vs temperature





Package outline dimension

