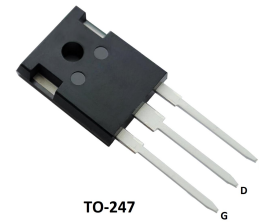


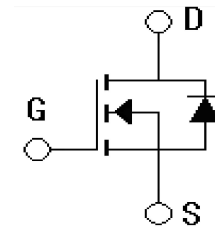
Features

- $V_{DS}=1500V, I_D=12A$
 $R_{DS(on)} < 1.8\Omega @ V_{GS}=10V$
- High density cell design for ultra low R_{dson}
- Low gate charge
- Improved dv/dt capability
- RoHS product



Applications

- High Voltage Switched-mode and resonant-mode power supplies
- High Voltage Pulse Power Applications
- High Voltage Discharge circuits in Lasers Pulsers, Spark Igniters, RF Generators
- High Voltage DC-DC converters
- High Voltage DC-AC inverters



Absolute Ratings ($T_C=25^\circ C$)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DSS}	1500	V
Transient Gate-Source Voltage	V_{GSM}	± 30	V
Continuous Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current-continuous	I_D	$T_C=25^\circ C$	12
		$T_C=100^\circ C$	8
Drain Current-pulse(note1)*	I_{DM}	22	A
Single Pulsed Avalanche Energy (note2)	E_{AS}	607	mJ
Maximum Power Dissipation	P_D	$T_C=25^\circ C$	694
		$T_C=100^\circ C$	277
Operating and Storage Temperature Range	T_J, T_{STG}	-55~+150	$^\circ C$
Maximum lead Storage Temperature Range Purposes	T_L	300	$^\circ C$

*Drain current limited by maximum junction temperature

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

Parameter	Symbol	Tests conditions	Min	Typ	Max	Units
Drain-Source Voltage	BV _{DSS}	I _D =1mA,V _{GS} =0V	1500	-	-	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =V _{DSS} ,V _{GS} =0V	-	-	1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±20V,V _{DS} =0V	-	-	±100	nA
On-Characteristics						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} ,I _D =250μA	2.0	-	5.5	V
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} =10V,I _D =1A (note3)	-	1.3	1.8	Ω
Forward Transconductance	g _{fs}	V _{DS} =20V,I _D =6A (note3)	-	17	-	S
Dynamic Characteristics						
Input capacitance	C _{iss}	V _{DS} =10V,V _{GS} =0V, f=1.0MHz (note4)	-	4874	-	pF
Output capacitance	C _{oss}		-	310	-	pF
Reverse transfer capacitance	C _{rss}		-	20	-	pF
Total Gate Charge	Q _g	V _{DS} =750V,I _D =6A, V _{GS} =10V (note4)		97		nC
Gate-Source Charge	Q _{gs}			34		nC
Gate-Drain Charge	Q _{gd}			35		nC
Switching-Characteristics						
Turn-On delay time	t _{d(on)}	V _{DS} =750V,I _D =6A, V _{GS} =10V (note3)	-	118	-	ns
Turn-On rise time	t _r		-	73	-	ns
Turn-Off delay time	t _{d(Off)}		-	260	-	ns
Turn-Off rise time	t _f		-	64	-	ns
Drain-Source Diode Characteristics and Maximum Ratings						
Continuous Drain-Source Diode Forward Current	V _{SD}	V _{GS} =0V,I _S =12A (note3)	0.5	-	1.2	V
Diode Forward Current	I _S	TC=25℃	-	-	12	A
Reverse recovery time	T _{rr}	I _S =6A,di _F /dt=100A/μS V _R =100V,V _{GS} =0V	-	0.37	-	uS
Reverse Recovery Charge	Q _{rr}				3.28	

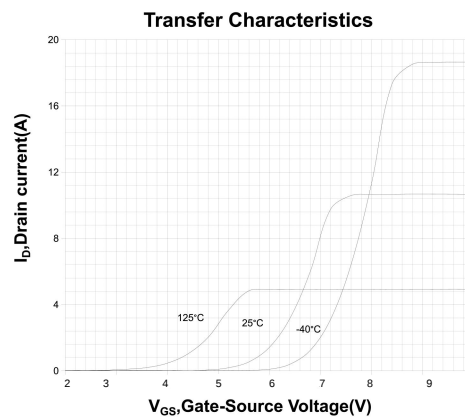
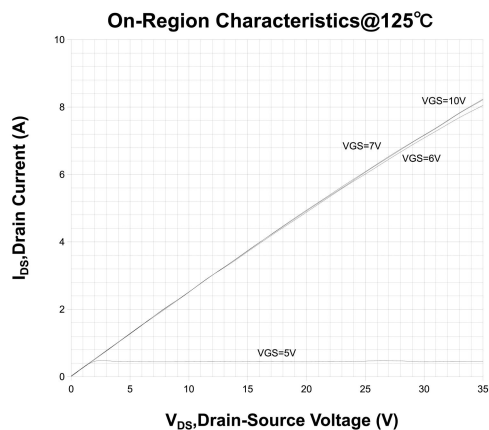
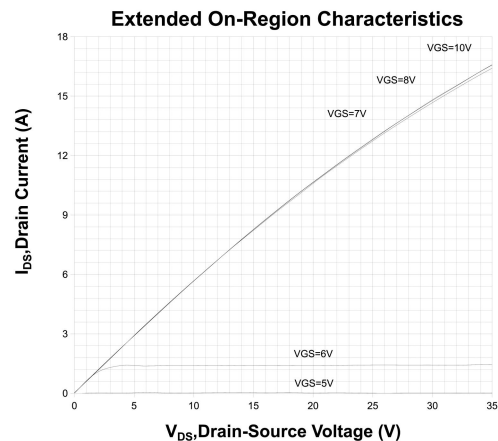
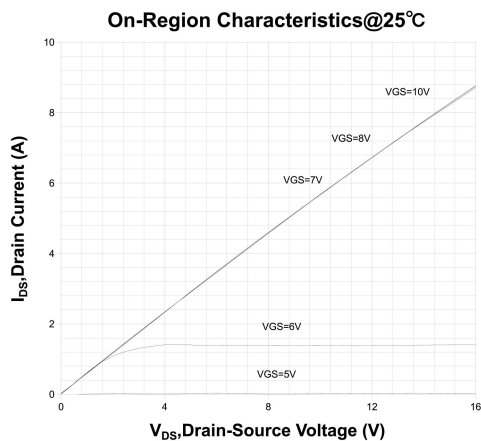
Thermal Characteristics

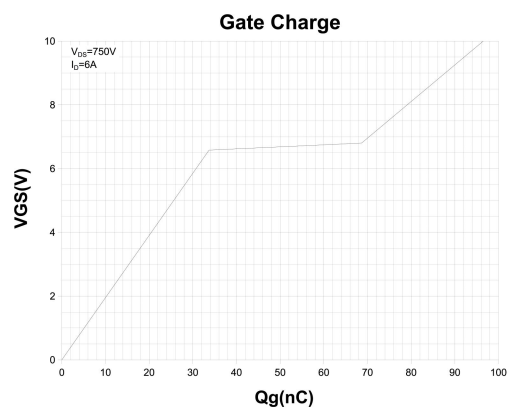
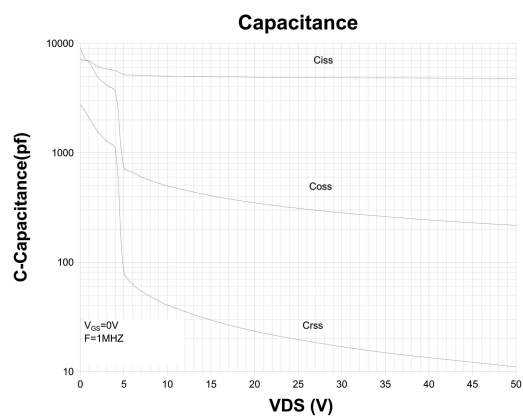
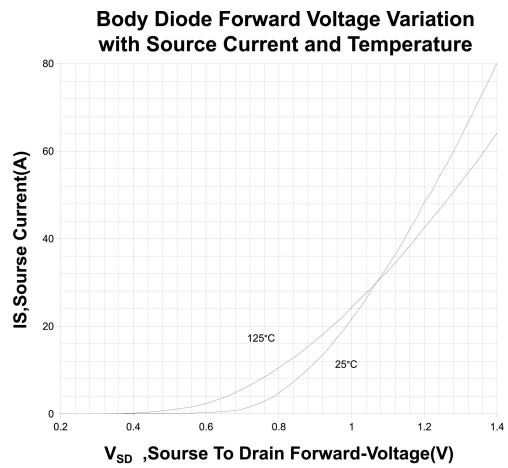
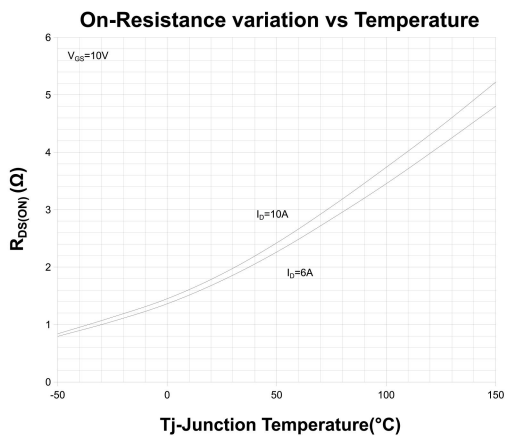
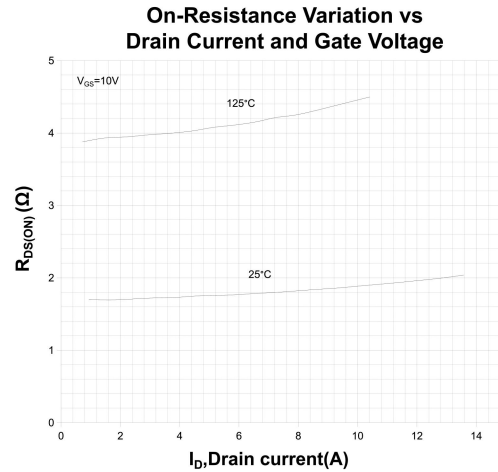
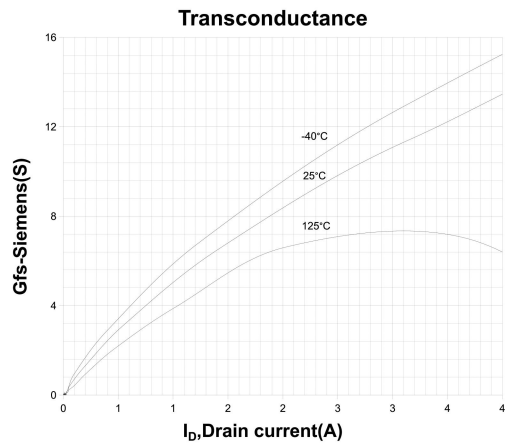
Parameter	Symbol	Value	Unit
Thermal Resistance, junction to Case	$R_{th(j-C)}$	0.18	$^{\circ}\text{C}/\text{W}$
Thermal Resistance, junction to ambient	$R_{th(j-A)}$	36	$^{\circ}\text{C}/\text{W}$

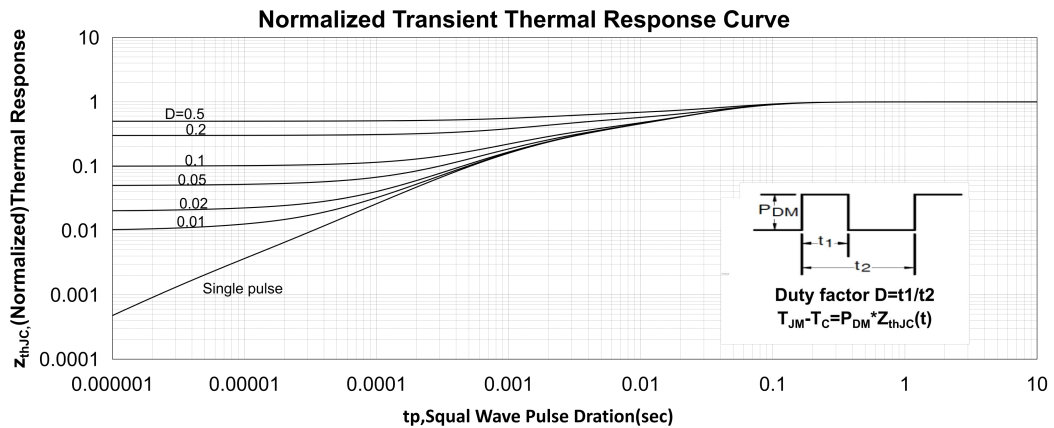
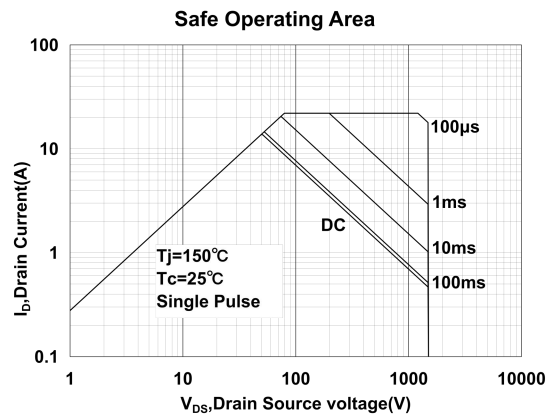
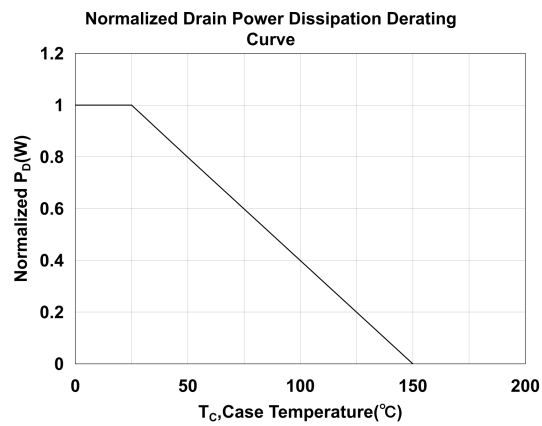
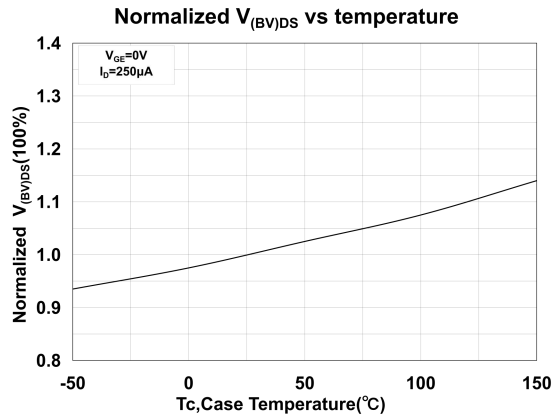
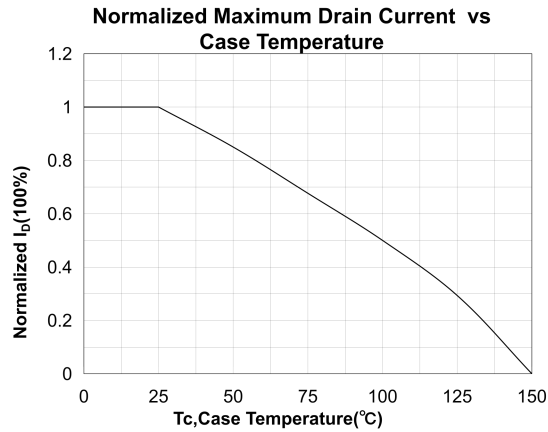
Notes:

1. Repetitive Rating : Pulse width limited by maximum junction temperature
2. $L = 15 \text{ mH}$, $I_{AS} = 9 \text{ A}$, $V_{DD} = 50\text{V}$, $R_G = 25 \Omega$, Starting $T_J = 25^{\circ}\text{C}$
3. Pulse Test : Pulse width $\leq 300\mu\text{s}$, Duty cycle $\leq 2\%$
4. Essentially independent of operating temperature

Electrical Characteristics







Package Mechanical DATA

