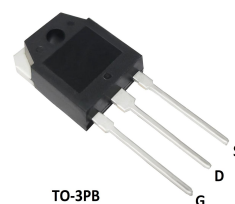


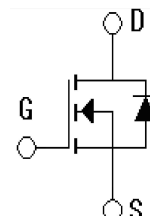
Features

- $V_{DS}=60V, I_D=60A$
- 100% avalanche tested
- Low drain-source on-resistance
- Gate charge minimized



Applications

- DC-DC Converter
- Switched mode power supplies
- Uninterruptible Power Supply



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

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DSS}	60	V
Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current-continuous	$I_D, T_C=25^\circ C$	60	A
	$I_D, T_C=100^\circ C$	30	
Drain Current-pulse ⁽¹⁾	I_{DM}	240	A
Single Pulsed Avalanche Energy ⁽²⁾ ($T_J=25^\circ C$)	E_{AS}	1050	mJ
Maximum Power Dissipation	$P_D, T_C=25^\circ C$	192	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55~+150	$^\circ C$

1. Pulse width Limited by safe operating area

Electrical Characteristics($T_c=25^\circ C$)

Parameter	Symbol	Tests conditions	Min	Typ	Max	Units
Drain-Source Voltage	BV_{DSS}	$I_D=250\mu A, V_{GS}=0V$	60	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=V_{DSS}, V_{GS}=0V, T_C=25^\circ C$	-	-	1	μA
		$T_C=125^\circ C$	-	-	50	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	-	-	± 100	nA

On-Characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	-	0.9	2.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=30A$	-	10	15	mΩ
Forward Transconductance	g_{fs}	$V_{DS}=10V, I_D=30A$	-	58	-	S
Dynamic Characteristics						
Input capacitance	C_{iss}	$V_{DS}=25V, V_{GS}=0V, f=250kHz$	-	5980	-	pF
Output capacitance	C_{oss}		-	1782	-	pF
Reverse transfer capacitance	C_{rss}		-	132	-	pF

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

Parameter	Symbol	Tests conditions	Min	Typ	Max	Units
Switching-Characteristics						
Turn-On delay time	$t_{d(on)}$	$V_{DS}=30V, I_D=60A,$ $V_{GS}=10V, R_G=10\Omega$	-	27	-	ns
Turn-On rise time	t_r		-	159	-	ns
Turn-Off delay time	$t_{d(Off)}$		-	248	-	ns
Turn-Off rise time	t_f		-	51	-	ns
Total Gate Charge	Q_g	$V_{DS}=48V, I_D=30A,$ $V_{GS}=10V$	-	146	-	nC
Gate-Source charge	Q_{gs}		-	14	-	nC
Gate-Drain charge	Q_{gd}		-	28	-	nC
Drain-Source Diode Characteristics and Maximum Ratings						
Maximum Continuous Drain-Source Diode Forward Current	V_{SD}	$V_{GS}=0V, I_S=60A$	-	0.92	1.2	V
Diode Forward Current	I_S		-	-	60	A
Reverse recovery time	T_{rr}	$I_S=60A,$ $di/dT=100A/\mu S$ $VR=16V,$	-	46	-	nS
Reverse recovery charge	Q_{rr}		-	74	-	nC

Thermal Characteristic

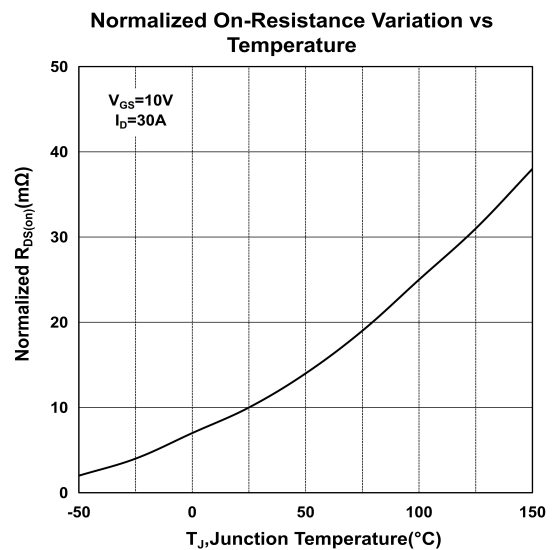
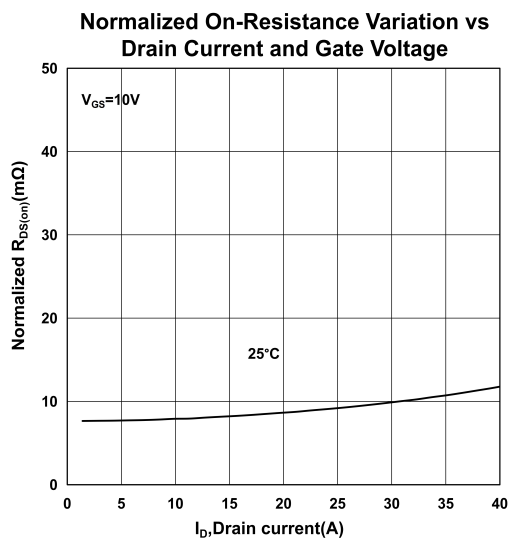
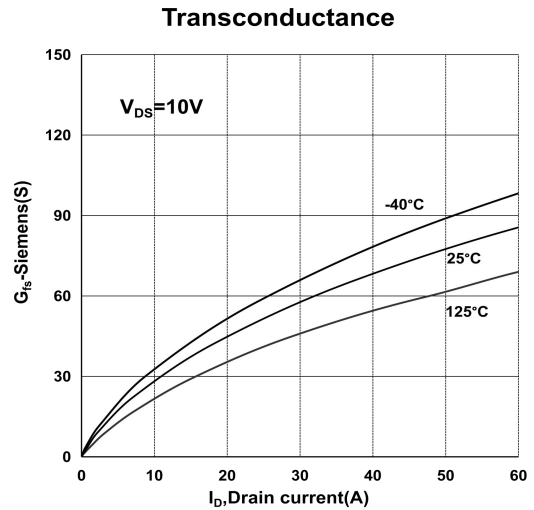
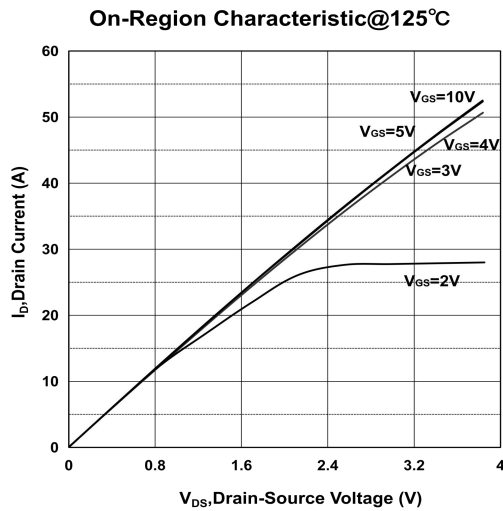
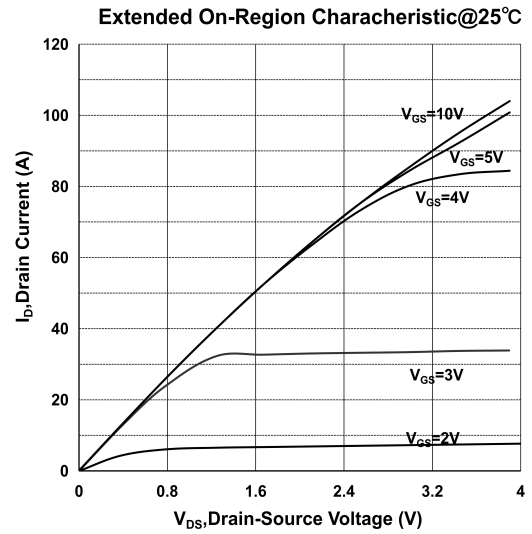
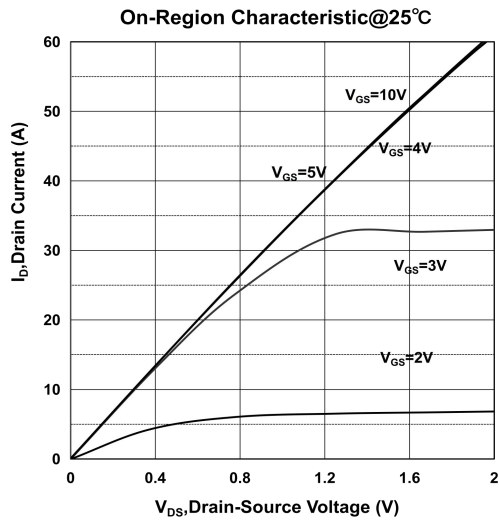
Parameter	Symbol	Value	Unit
Thermal Resistance, junction to Case	$R_{th(j-C)}$	0.65	$^{\circ}C/W$
Thermal Resistance, junction to Ambient	$R_{th(j-A)}$	30	$^{\circ}C/W$

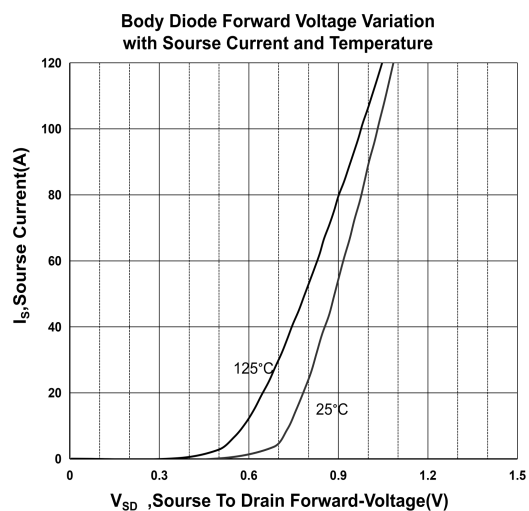
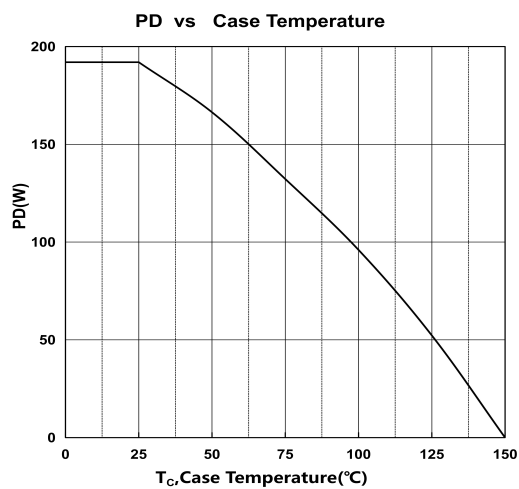
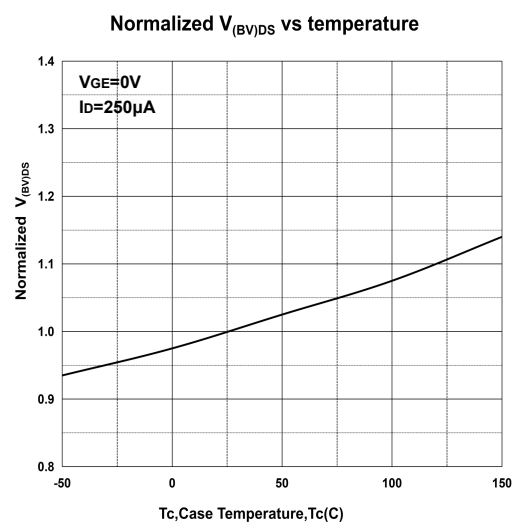
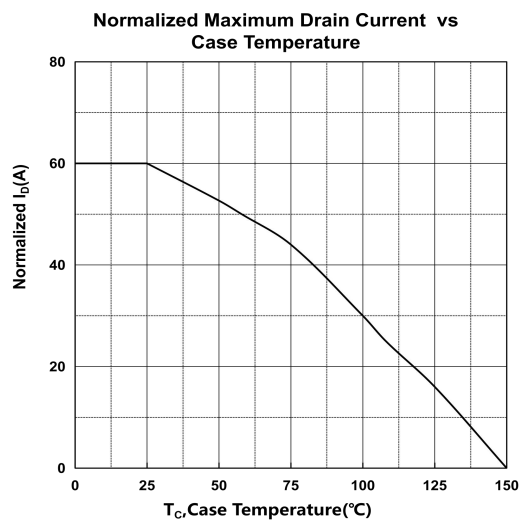
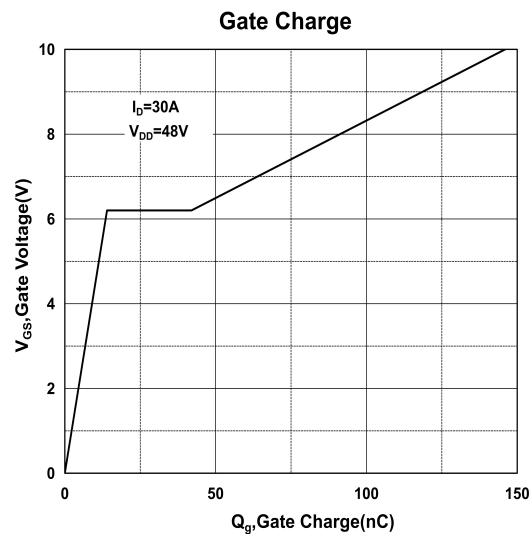
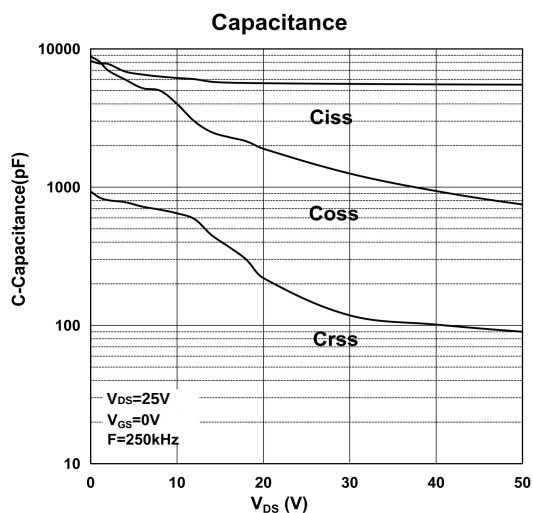
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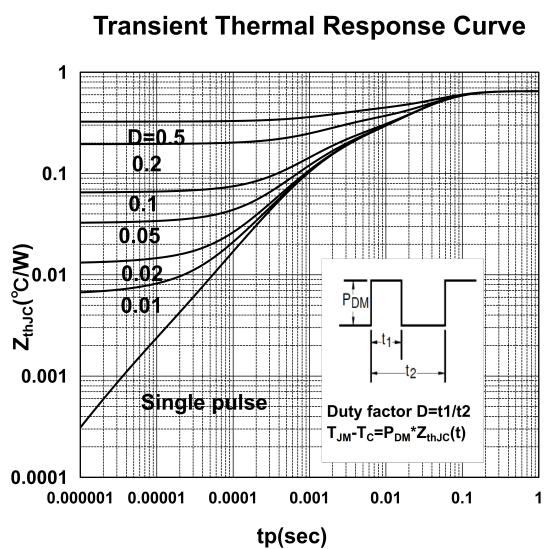
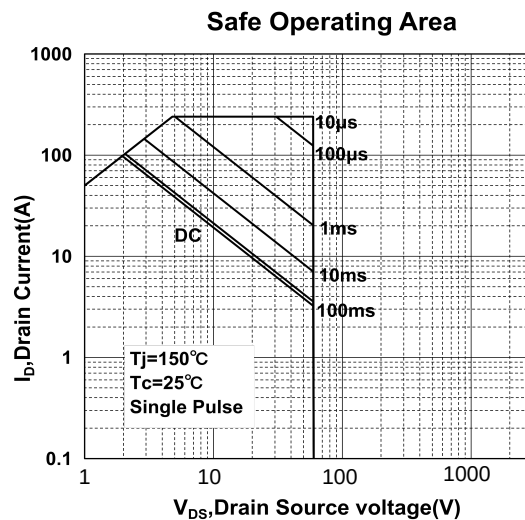
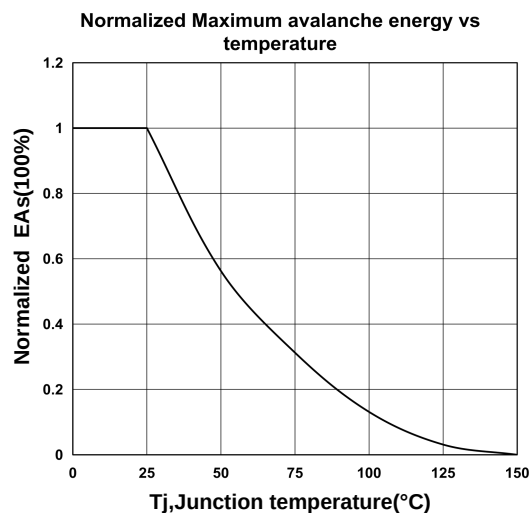
1. Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$

2. $V_{DD} = 25V$, $L = 398\mu H$, $R_G = 25\Omega$, $I_{AR} = 60A$

Electrical Characteristics







Package outline dimension

