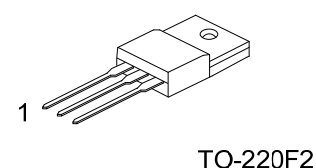
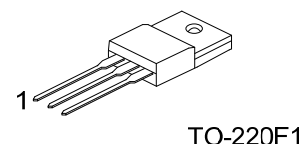
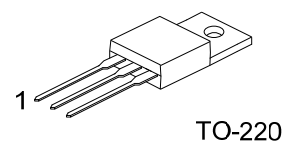
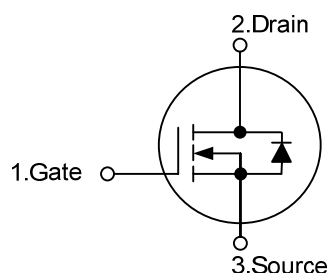


**UTT80N08****Power MOSFET****80A, 80V N-CHANNEL
POWER MOSFET****DESCRIPTION**

The UTC **UTT80N08** is a N-channel MOSFET using UTC advanced technology. It can be used in applications, such as power supply (secondary synchronous rectification), industrial and primary switch etc.

FEATURES

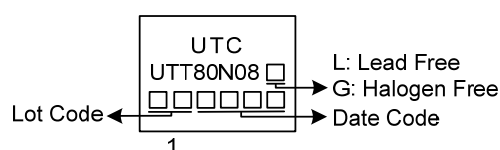
- * $R_{DS(ON)} \leq 14 \text{ m}\Omega$ @ $V_{GS}=10\text{V}$, $I_D=80\text{A}$
- * Trench FET Power MOSFETS Technology

SYMBOL**ORDERING INFORMATION**

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UTT80N08L-TA3-T	UTT80N08G-TA3-T	TO-220	G	D	S	Tube
UTT80N08L-TF1-T	UTT80N08G-TF1-T	TO-220F1	G	D	S	Tube
UTT80N08L-TF2-T	UTT80N08G-TF2-T	TO-220F2	G	D	S	Tube

Note: Pin Assignment: G: Gate D: Drain S: Source

UTT80N08G-TA3-T (1)Packing Type (2)Package Type (3)Green Package		(1) T: Tube (2) TA3: TO-220, TF1: TO-220F1, TF2: TO-220F2 (3) G: Halogen Free and Lead Free, L: Lead Free
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MARKING

■ ABSOLUTE MAXIMUM RATINGS ($T_J = 25^\circ\text{C}$, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage		V_{DS}	80	V
Gate Source Voltage		V_{GS}	± 20	V
Continuous Drain Current		I_D	80	A
Pulsed Drain Current		I_{DM}	160	A
Avalanche Energy, Single Pulse		E_{AS}	142	mJ
Peak Diode Recovery dv/dt (Note 4)		dv/dt	4.3	V/ns
Power Dissipation	TO-220	P_D	142	W
	TO-220F1/TO-220F2		39	W
Junction Temperature		T_J	+150	$^\circ\text{C}$
Storage Temperature		T_{STG}	-55 ~ +150	$^\circ\text{C}$

Notes: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

2. $L=0.1\text{mH}$, $I_{AS}=54\text{A}$, $V_{DD}=25\text{V}$, $R_G=20\Omega$, Starting $T_J=25^\circ\text{C}$.

■ THERMAL DATA

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	TO-220/TO-220F1	θ_{JA}	62.5	$^\circ\text{C/W}$
	TO-220F2			
Junction to Case	TO-220	θ_{JC}	0.88	$^\circ\text{C/W}$
	TO-220F1/TO-220F2		3.2	

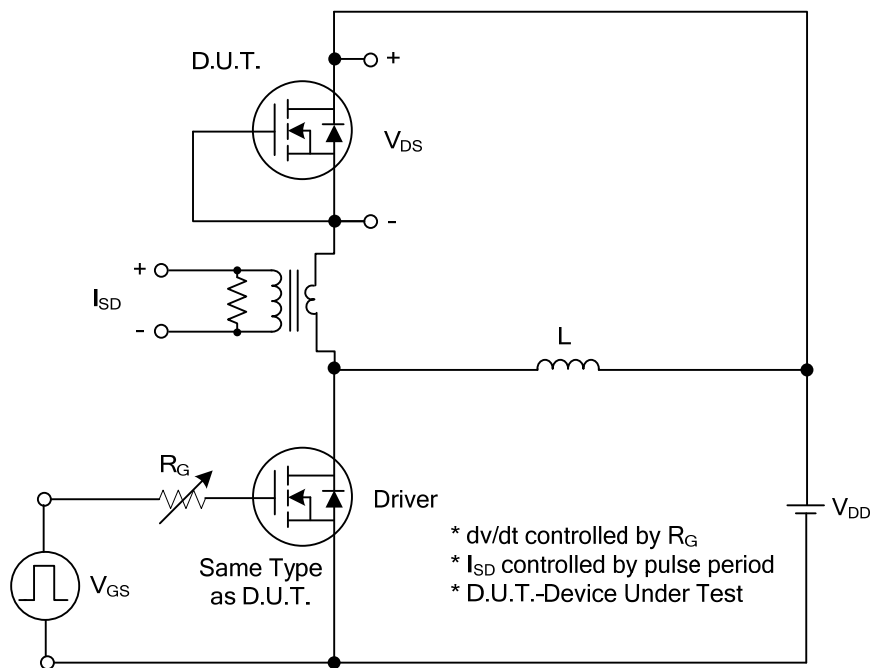
■ ELECTRICAL CHARACTERISTICS (T_J = 25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	I _D =250μA, V _{GS} =0V	80			V
Drain-Source Leakage Current	I _{DSS}	V _{DS} =80V, V _{GS} =0V			1	μA
Gate-Source Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} =V _{GS} , I _D =250μA	2.0		4.0	V
Static Drain-Source On-State Resistance	R _{DS(ON)}	V _{GS} =10V, I _D =80A			14	mΩ
DYNAMIC PARAMETERS						
Input Capacitance	C _{ISS}	V _{GS} =0V, V _{DS} =25V, f=1.0MHz		4000		pF
Output Capacitance	C _{OSS}			330		pF
Reverse Transfer Capacitance	C _{RSS}			270		pF
SWITCHING PARAMETERS						
Total Gate Charge	Q _G	V _{DD} =64V, V _{GS} =0~10V, I _D =80A		110		nC
Gate to Source Charge	Q _{GS}			22		nC
Gate to Drain Charge	Q _{GD}			33		nC
Turn-ON Delay Time	t _{D(ON)}	V _{DD} =40V, V _{GS} =10V, I _D =80A R _G =3.3Ω		18		ns
Rise Time	t _R			20		ns
Turn-OFF Delay Time	t _{D(OFF)}			58		ns
Fall-Time	t _F			24		ns
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Maximum Continuous Drain-Source Diode Forward Current	I _S				80	A
Maximum Pulsed Drain-Source Diode Forward Current	I _{SM}				160	A
Drain-Source Diode Forward Voltage	V _{SD}	I _S =80A, V _{GS} =0V		0.9	1.3	V
Reverse Recovery Time (Note 1)	t _{rr}	I _S =30A, V _{GS} =0V,		60		ns
Reverse Recovery Charge	Q _{rr}	dl _F /dt=100A/μs (Note1)		220		nC

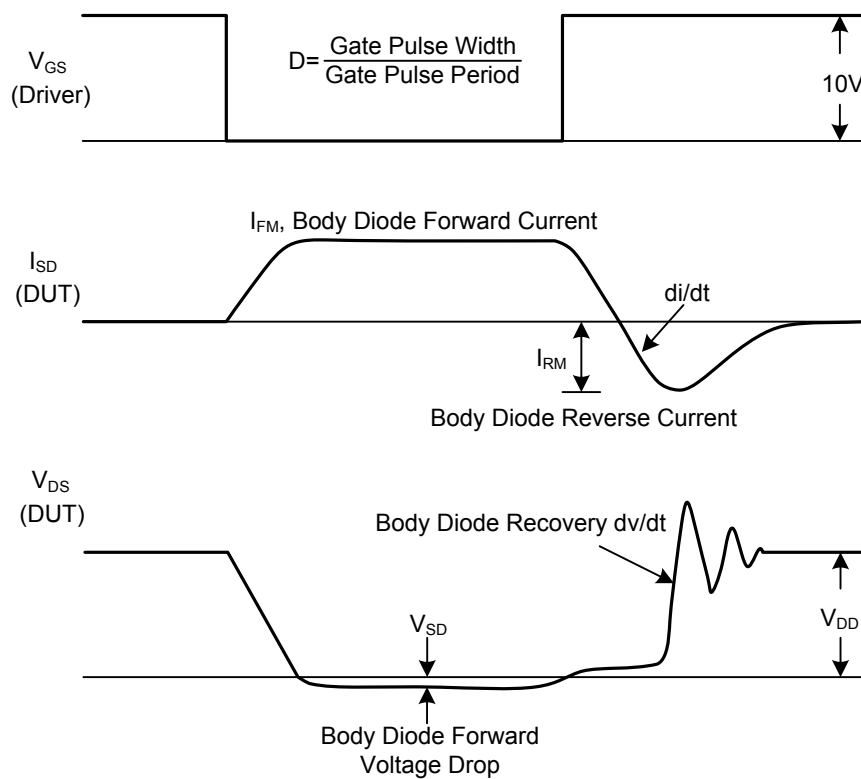
Notes: 1. Pulse Test : Pulse width ≤ 300μs, Duty cycle ≤ 2%.

2. Essentially independent of operating temperature.

■ TEST CIRCUITS AND WAVEFORMS

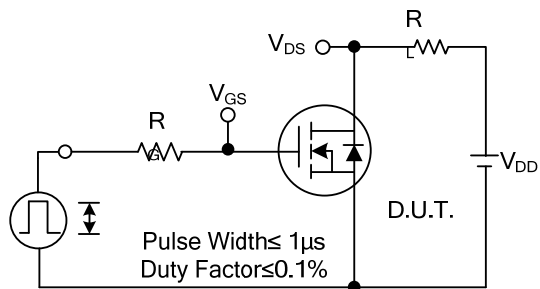


Peak Diode Recovery dv/dt Test Circuit

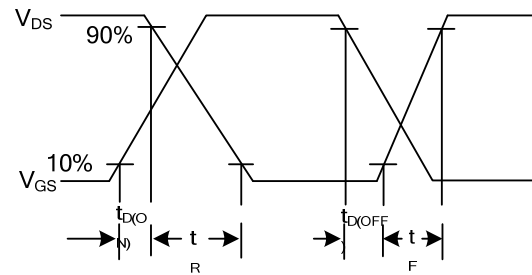


Peak Diode Recovery dv/dt Waveforms

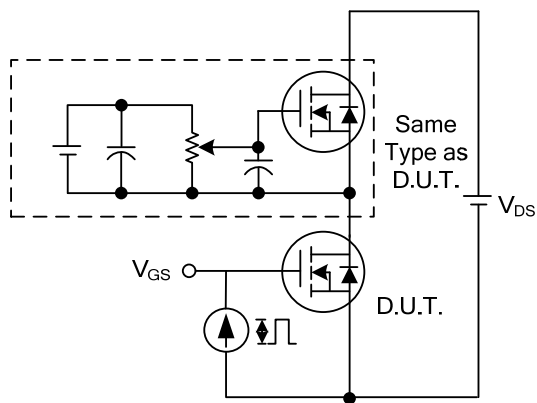
■ TEST CIRCUITS AND WAVEFORMS



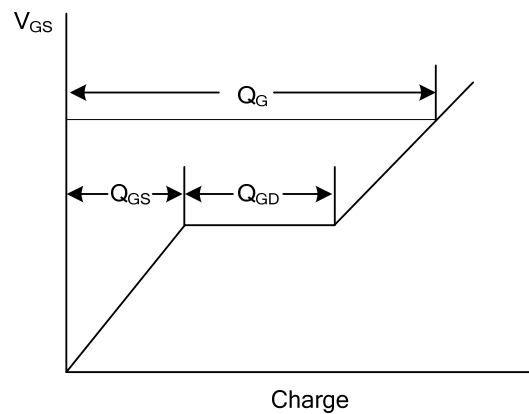
Switching Test Circuit



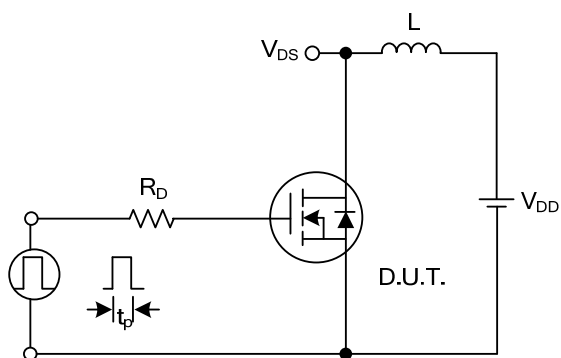
Switching Waveforms



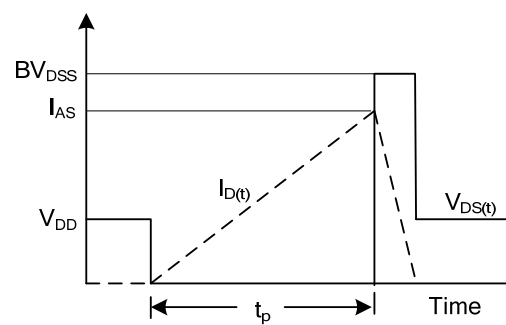
Gate Charge Test Circuit



Gate Charge Waveform

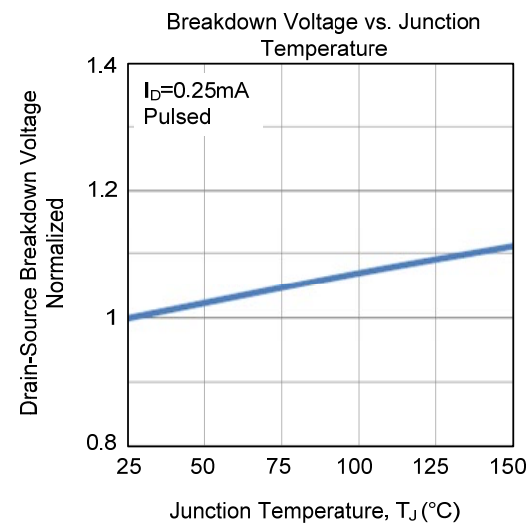
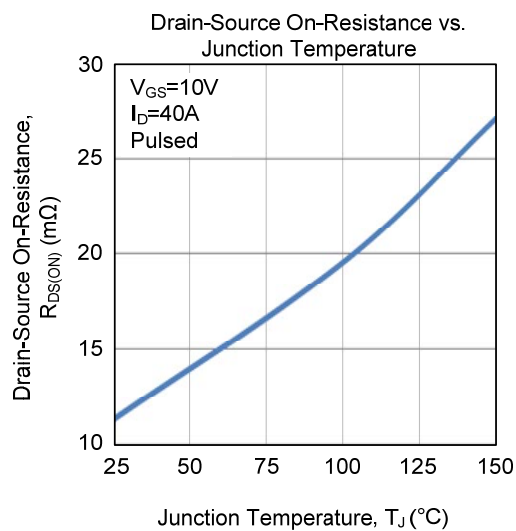
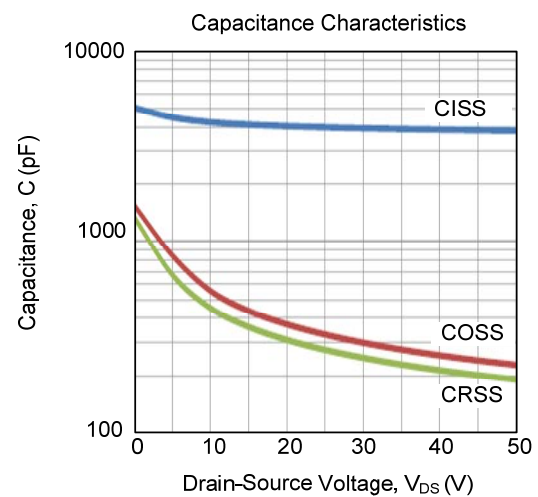
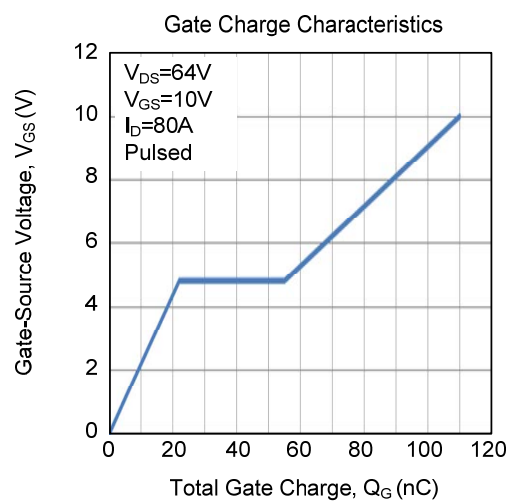
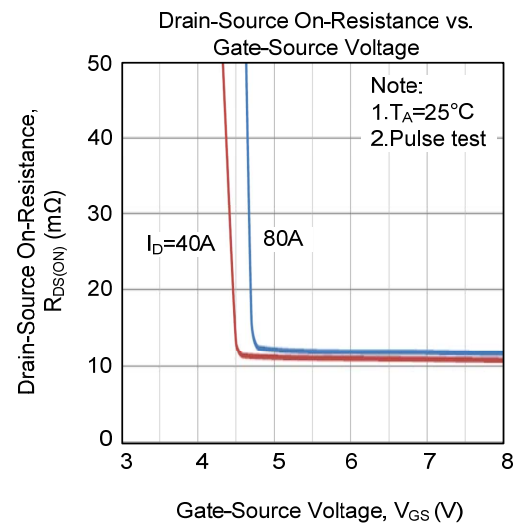
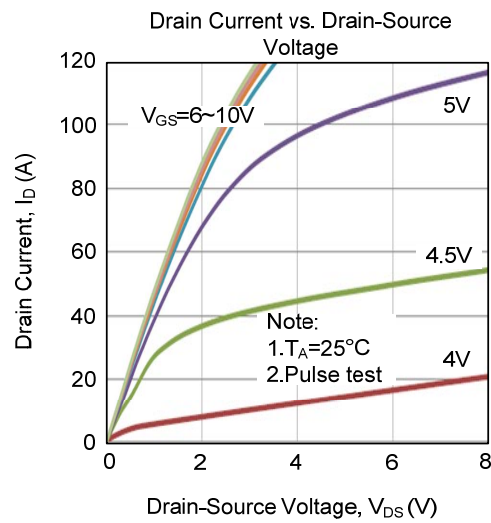


Unclamped Inductive Switching Test Circuit

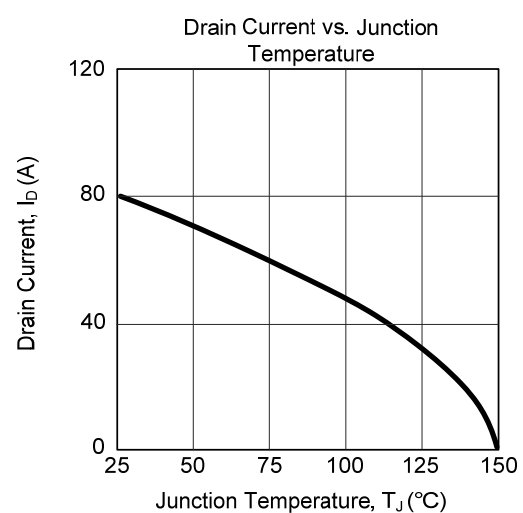
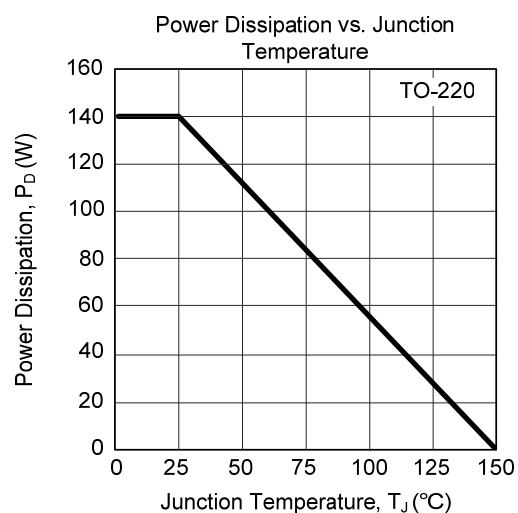
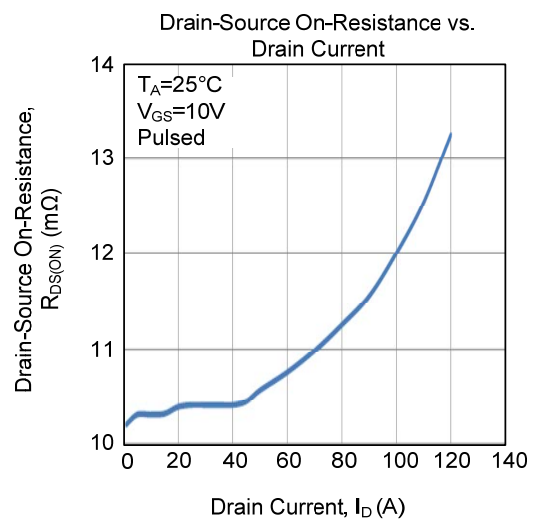
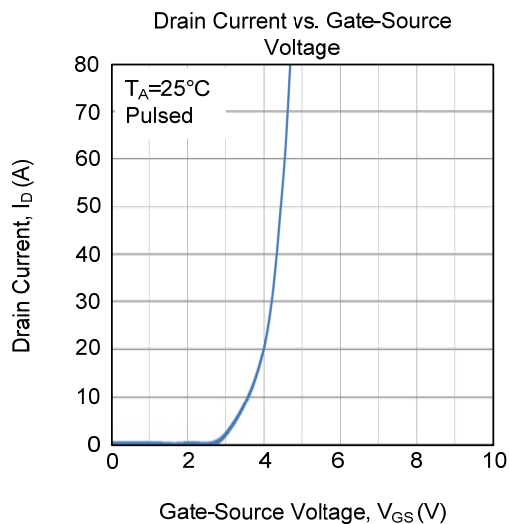
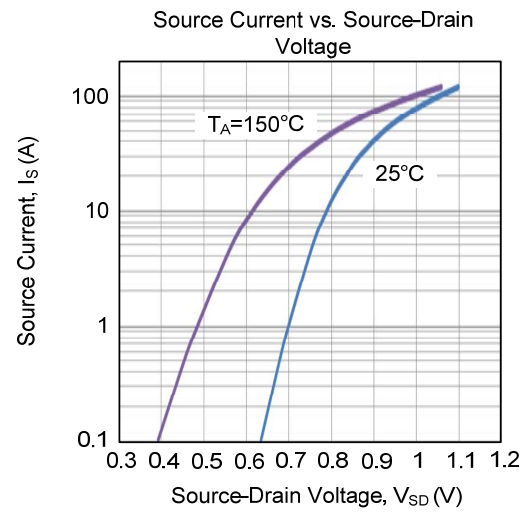
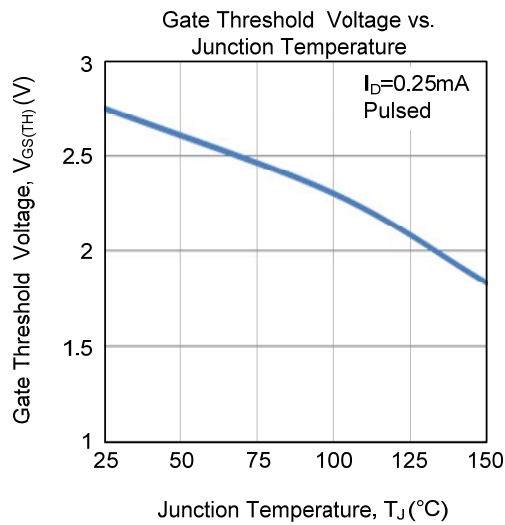


Unclamped Inductive Switching Waveforms

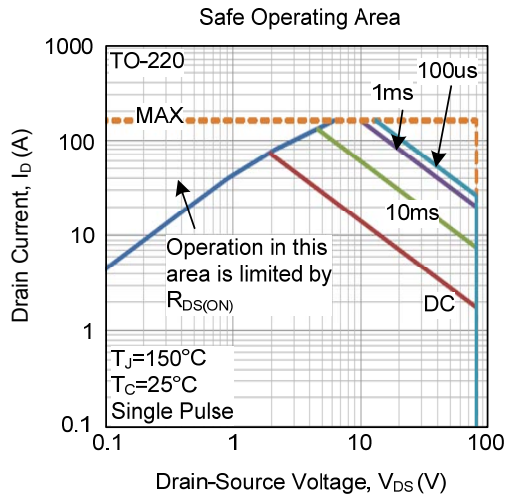
TYPICAL CHARACTERISTICS



TYPICAL CHARACTERISTICS (Cont.)



■ TYPICAL CHARACTERISTICS (Cont.)



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