



UT3437

Power MOSFET

**-1.4A, -150V P-CHANNEL (D-S)
POWER MOSFET**

■ **DESCRIPTION**

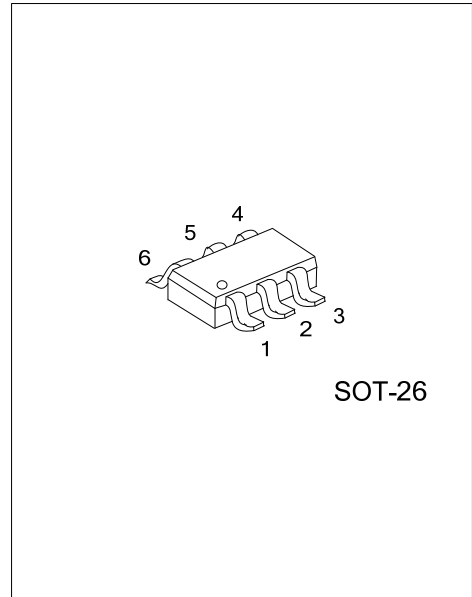
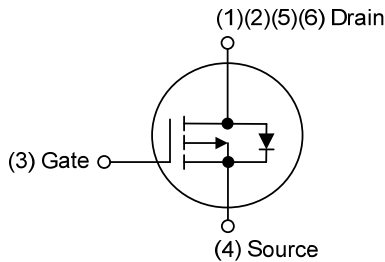
The UTC **UT3437** is a P-channel MOSFET, it uses UTC's advanced technology to provide the customers with low gate charge, etc.

The UTC **UT3437** is suitable for active clamp circuits in DC/DC power supplies.

■ **FEATURES**

- * $R_{DS(ON)} \leq 0.75 \Omega @ V_{GS}=-10V, I_D=-1.4A$
- $R_{DS(ON)} \leq 0.79 \Omega @ V_{GS}=-6.0V, I_D=-1.0A$
- * Low gate charge

■ **SYMBOL**



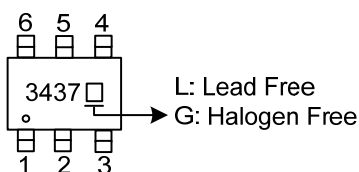
■ **ORDERING INFORMATION**

Ordering Number		Package	Pin Assignment						Packing
Lead Free	Halogen Free		1	2	3	4	5	6	
UT3437L-AG6-R	UT3437G-AG6-R	SOT-26	D	D	G	S	D	D	Tape Reel

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

<p>UT3437G-AG6-R</p> <p>(1) Packing Type (2) Package Type (3) Green Package</p>	<p>(1) R: Tape Reel (2) AG6: SOT-26 (3) G: Halogen Free and Lead Free, L: Lead Free</p>
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■ **MARKING**



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V _{DSS}	-150	V
Gate-Source Voltage	V _{GSS}	±20	V
Continuous Drain Current (T _C =25°C)	I _D	-1.4	A
Pulsed Drain Current	I _{DM}	-5	A
Peak Diode Recovery dv/dt (Note 3)	dv/dt	1.2	V/ns
Maximum Power Dissipation	P _D	1.1	W
Junction Temperature	T _J	-55 ~ 150	°C
Storage Temperature Range	T _{STG}	-55 ~ 150	°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. Repetitive Rating: Pulse width limited by maximum junction temperature.

3. I_{SD} ≤ -1.2A, di/dt ≤ 200A/μs, V_{DD} ≤ BV_{DSS}, Starting T_J = 25°C.

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ _{JA}	113	°C/W

Note: Surface Mounted on 1" x 1" FR4 board.

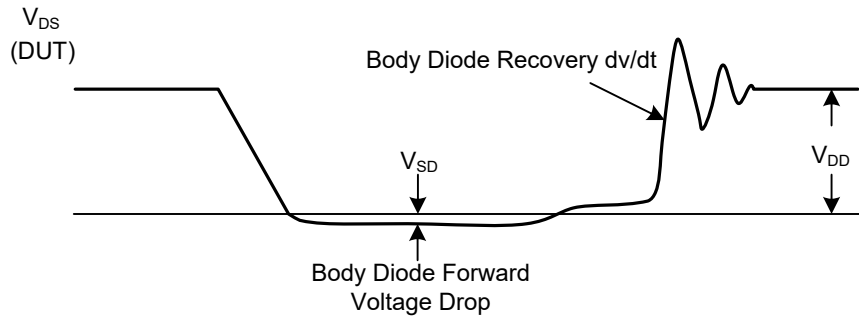
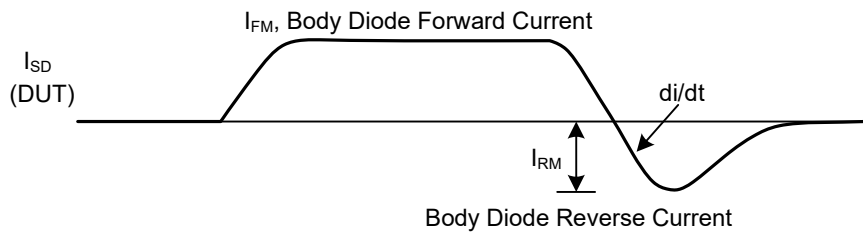
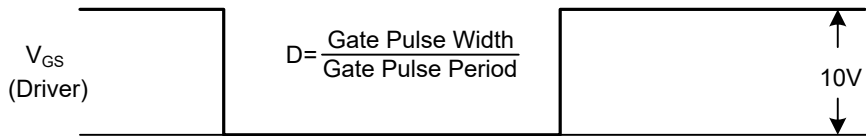
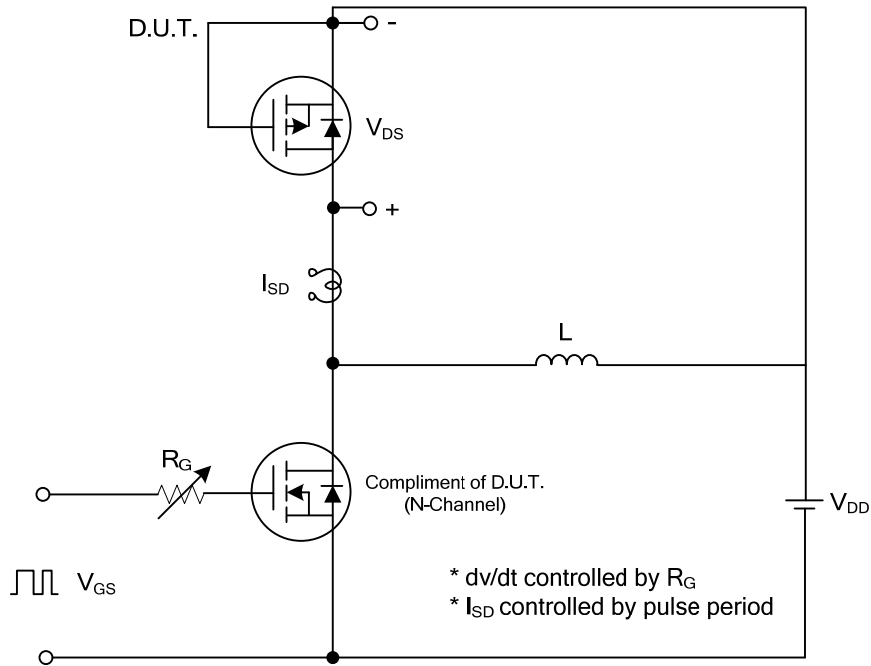
■ ELECTRICAL CHARACTERISTICS (T_J=25°C unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
STATIC PARAMETERS						
Drain-Source Breakdown Voltage	BV _{DSS}	I _D =-250μA, V _{GS} =0V	-150			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-150V, V _{GS} =0V			-1	μA
		V _{DS} =-150V, V _{GS} =0V, T _J =55°C			-10	μA
Gate-Source 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		-4.0	V
Drain-Source On-State Resistance	R _{DS(ON)}	V _{GS} =-10V, I _D =-1.4A			0.75	Ω
		V _{GS} =-6.0V, I _D =-1.0A			0.79	Ω
DYNAMIC PARAMETERS (Note 2)						
Input Capacitance	C _{ISS}	V _{DS} =-25V, V _{GS} =0V, f=1MHz		460		pF
Output Capacitance	C _{OSS}			42		pF
Reverse Transfer Capacitance	C _{RSS}			20		pF
SWITCHING PARAMETERS(Note 1)						
Total Gate Charge	Q _G	V _{GS} =-10V, V _{DS} =-120V, I _D =-1.4A,		18		nC
Gate to Source Charge	Q _{GS}			8		nC
Gate to Drain Charge	Q _{GD}			2.5		nC
Turn-ON Delay Time	t _{D(ON)}	V _{DS} =-75V, V _{GS} =-10V, I _D =-1.4A, R _G =1Ω		5		ns
Rise Time	t _R			17		ns
Turn-OFF Delay Time	t _{D(OFF)}			16		ns
Fall-Time	t _F			20		ns
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Continuous Source-Drain Diode Current	I _S	T _C =25°C			-1.4	A
Pulse Diode Forward Current	I _{SM}				-5	A
Body Diode Voltage	V _{SD}	I _S =-1A, V _{GS} =0V		-0.8	-1.2	V
Body Diode Reverse Recovery Time	t _{rr}	I _F =-1.4 A, di/dt=100A/μs		32		ns
Body Diode Reverse Recovery Charge	Q _{rr}				112	

Notes: 1. Pulse test; pulse width ≤ 300μs, duty cycle ≤ 2%.

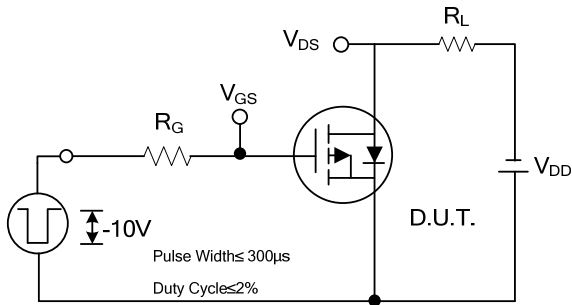
2. Guaranteed by design, not subject to production testing.

■ TEST CIRCUITS AND WAVEFORMS

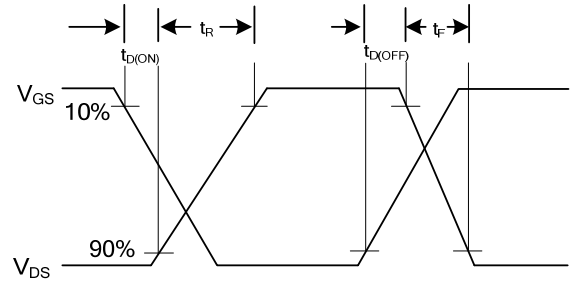


Peak Diode Recovery dv/dt Test Circuit and Waveforms

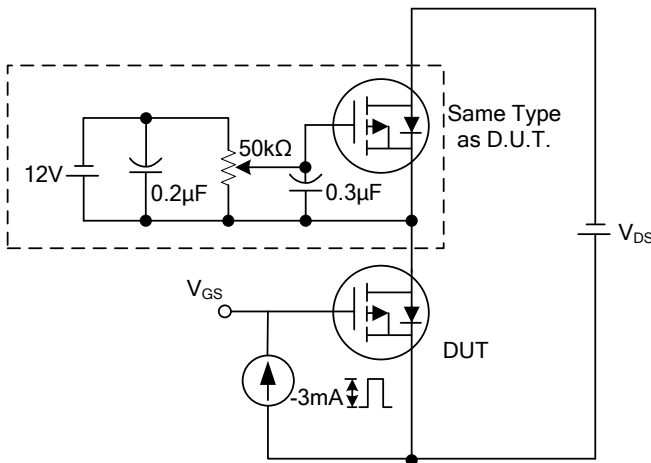
TEST CIRCUITS AND WAVEFORMS



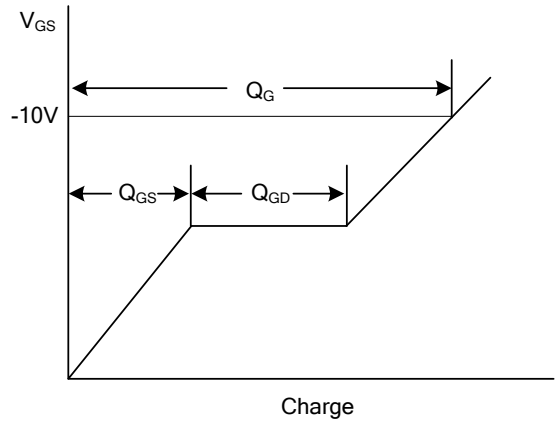
Switching Test Circuit



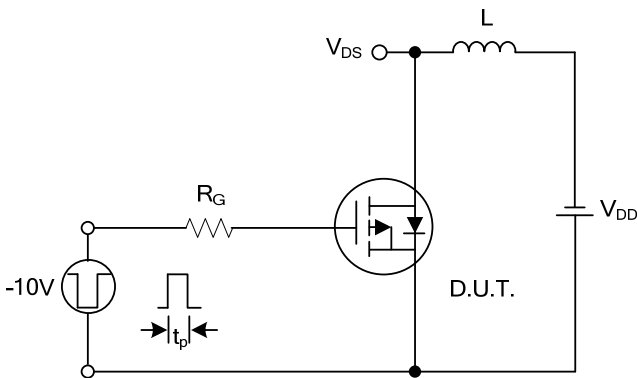
Switching Waveforms



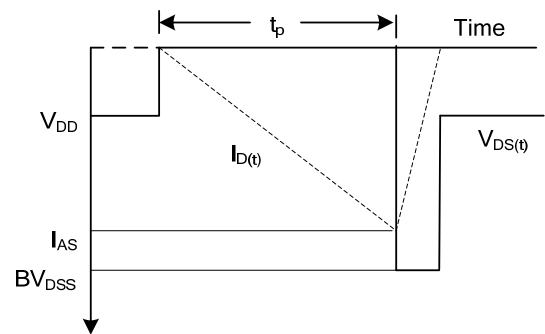
Gate Charge Test Circuit



Gate Charge Waveform

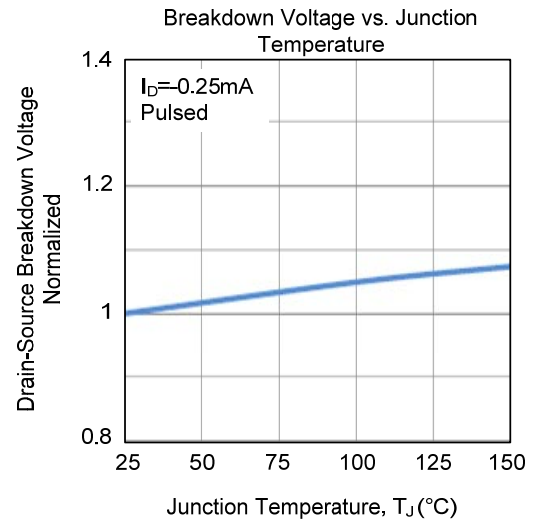
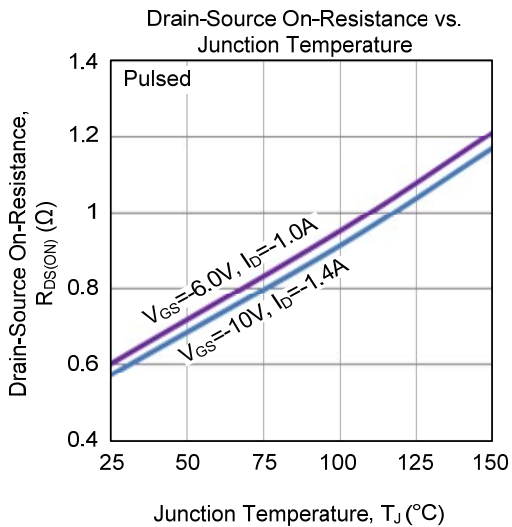
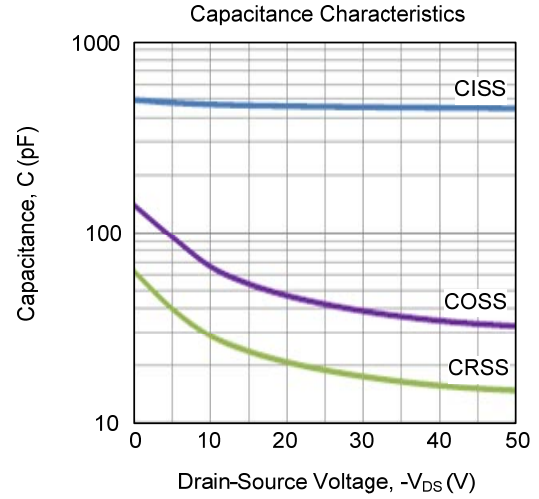
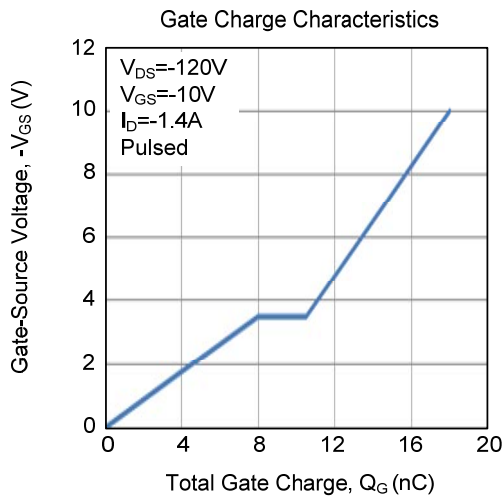
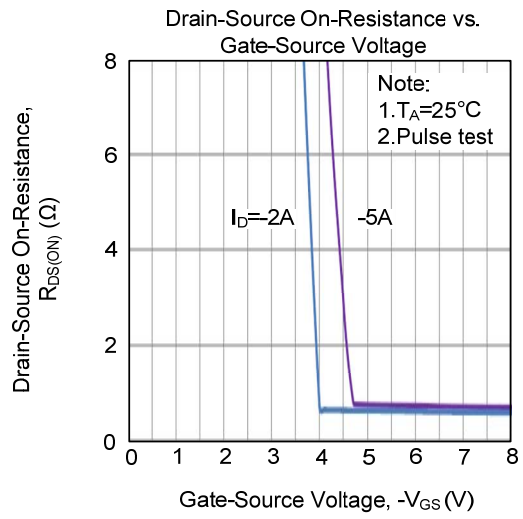
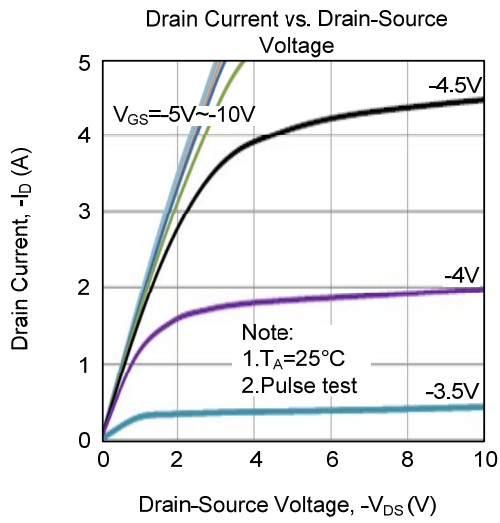


Unclamped Inductive Switching Test Circuit

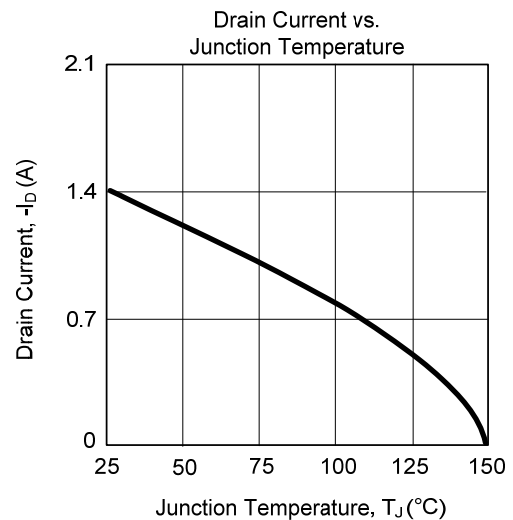
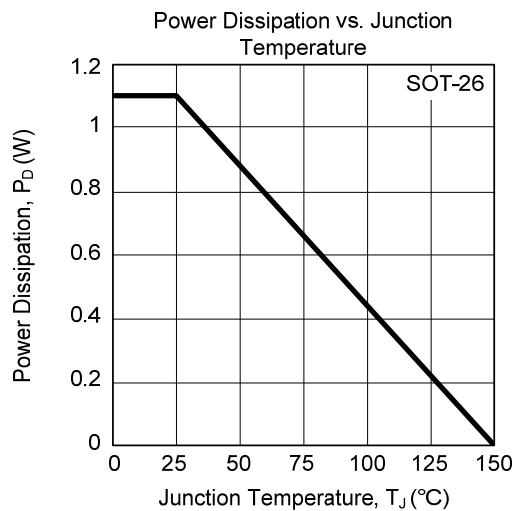
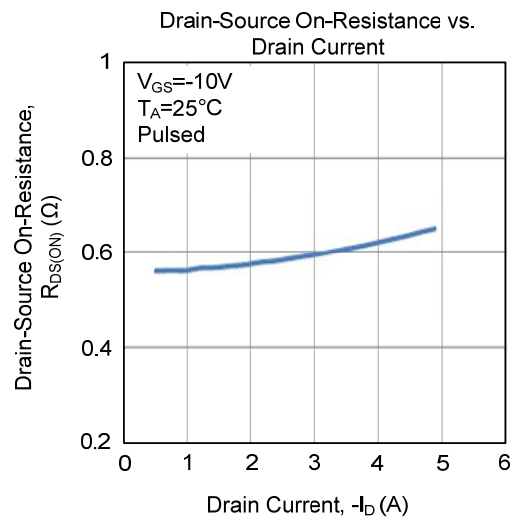
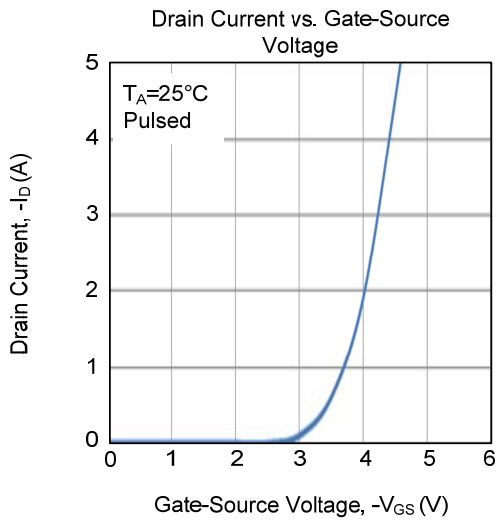
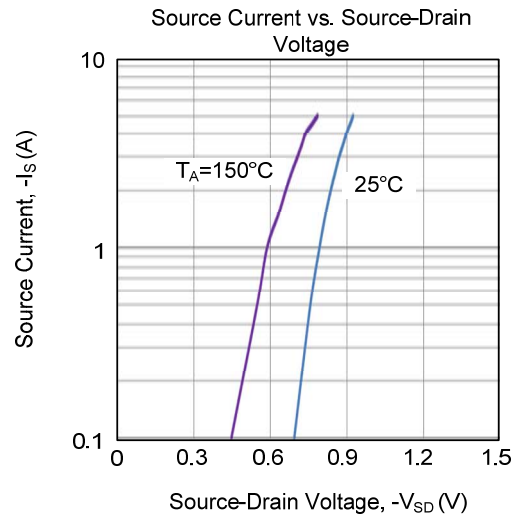
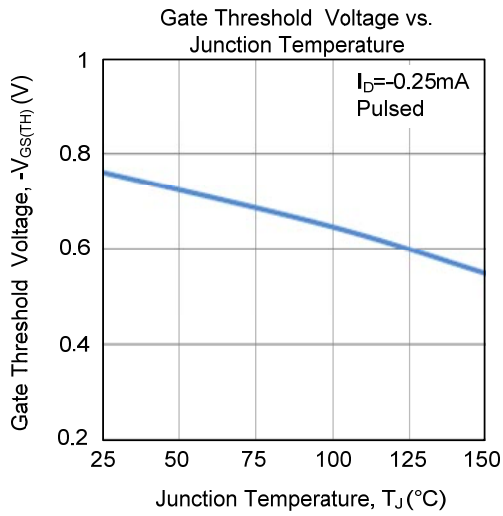


Unclamped Inductive Switching Waveforms

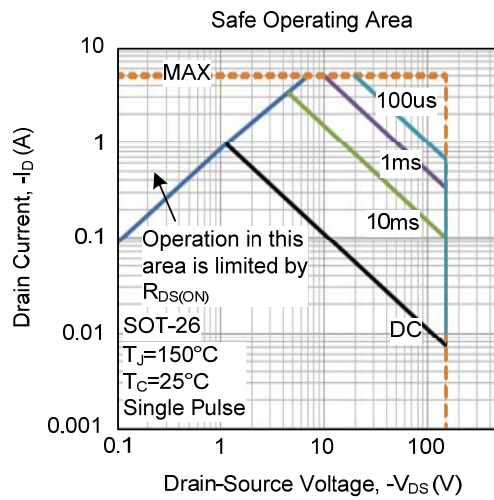
TYPICAL CHARACTERISTICS



■ TYPICAL CHARACTERISTICS (Cont.)



■ TYPICAL CHARACTERISTICS (Cont.)



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