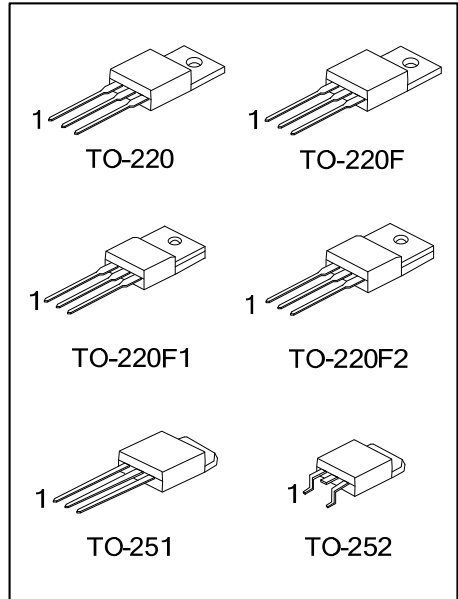
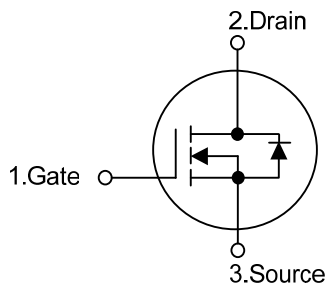


**8NM60****Power MOSFET****8.0A, 600V N-CHANNEL
POWER MOSFET****DESCRIPTION**

The UTC **8NM60** is a high voltage super junction MOSFET and is designed to have better characteristics, such as fast switching time, low gate charge, low on-state resistance and have a high rugged avalanche characteristics. This power MOSFET is usually used at high speed switching applications in switching power supplies and adaptors.

FEATURES

- * $R_{DS(ON)} \leq 0.75 \Omega$ @ $V_{GS}=10V$, $I_D=4.0A$
- * Fast Switching Capability
- * Avalanche Energy Tested
- * Improved dv/dt Capability, High Ruggedness

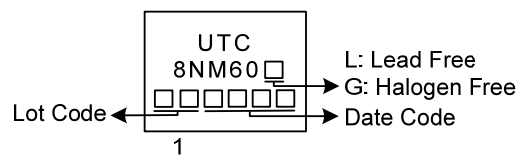
SYMBOL**ORDERING INFORMATION**

Order Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
8NM60L-TA3-T	8NM60G-TA3-T	TO-220	G	D	S	Tube
8NM60L-TF1-T	8NM60G-TF1-T	TO-220F1	G	D	S	Tube
8NM60L-TF2-T	8NM60G-TF2-T	TO-220F2	G	D	S	Tube
8NM60L-TF3-T	8NM60G-TF3-T	TO-220F	G	D	S	Tube
8NM60L-TM3-T	8NM60G-TM3-T	TO-251	G	D	S	Tube
8NM60L-TN3-R	8NM60G-TN3-R	TO-252	G	D	S	Tape Reel

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

8NM60G-TA3-T	(1)Packing Type	(1) T: Tube, R: Tape Reel
	(2)Package Type	(2) TA3: TO-220, TF1: TO-220F1, TF2: TO-220F2
	(3)Green Package	TF3: TO-220F, TM3: TO-251, TN3: TO-252
		(3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



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

PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage		V_{DSS}	600	V
Gate-Source Voltage		V_{GSS}	± 30	V
Drain Current	Continuous	I_D	8.0	A
	Pulsed (Note 2)	I_{DM}	32	A
Avalanche Current (Note 2)		I_{AR}	1.9	A
Avalanche Energy	Single Pulsed (Note 3)	E_{AS}	233	mJ
Peak Diode Recovery dv/dt (Note 4)		dv/dt	4.2	V/ns
Power Dissipation	TO-220	P_D	75	W
	TO-220F/TO-220F1		27	W
	TO-220F2			
	TO-251/TO-252		56	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. Repetitive Rating : Pulse width limited by maximum junction temperature.

3. $L=144\text{mH}$, $I_{AS}=1.8\text{A}$, $V_{DD}=50\text{V}$, $R_G=25\ \Omega$, Starting $T_J = 25^\circ\text{C}$

4. $I_{SD}\leq 8.0\text{A}$, $di/dt\leq 200\text{A}/\mu\text{s}$, $V_{DD}\leq BV_{DSS}$, Starting $T_J = 25^\circ\text{C}$

■ **THERMAL DATA**

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	TO-220/TO-220F	θ_{JA}	62.5	$^\circ\text{C}/\text{W}$
	TO-220F1/TO-220F2			
	TO-251/TO-252		110	$^\circ\text{C}/\text{W}$
Junction to Case	TO-220	θ_{JC}	1.66	$^\circ\text{C}/\text{W}$
	TO-220F/TO-220F1		4.6	$^\circ\text{C}/\text{W}$
	TO-220F2			
	TO-251/TO-252		2.23 (Note)	$^\circ\text{C}/\text{W}$

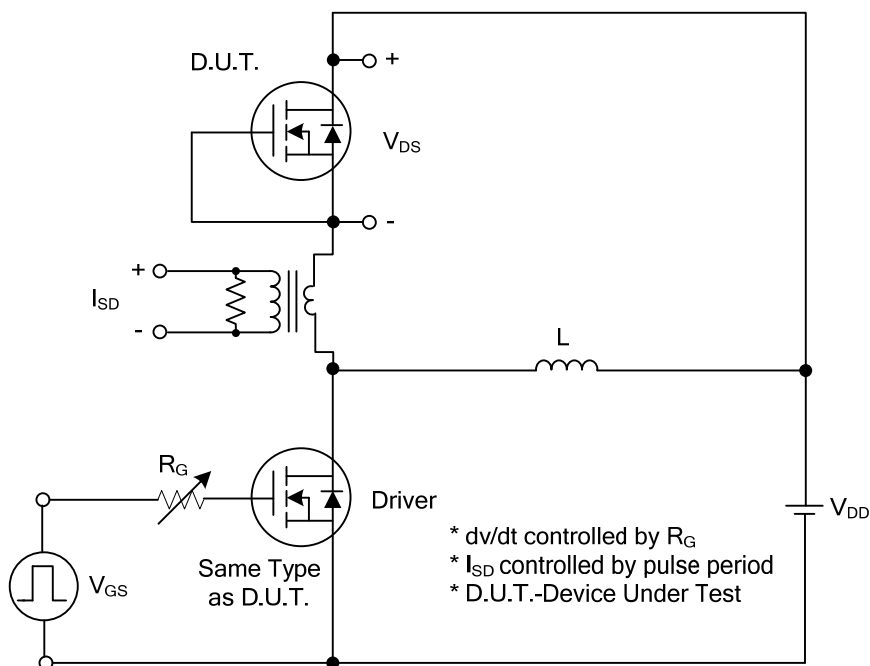
Note: Device mounted on FR-4 substrate P_C board, 2oz copper, with 1inch square copper plate.

■ **ELECTRICAL CHARACTERISTICS** ($T_C = 25^\circ\text{C}$, unless otherwise specified)

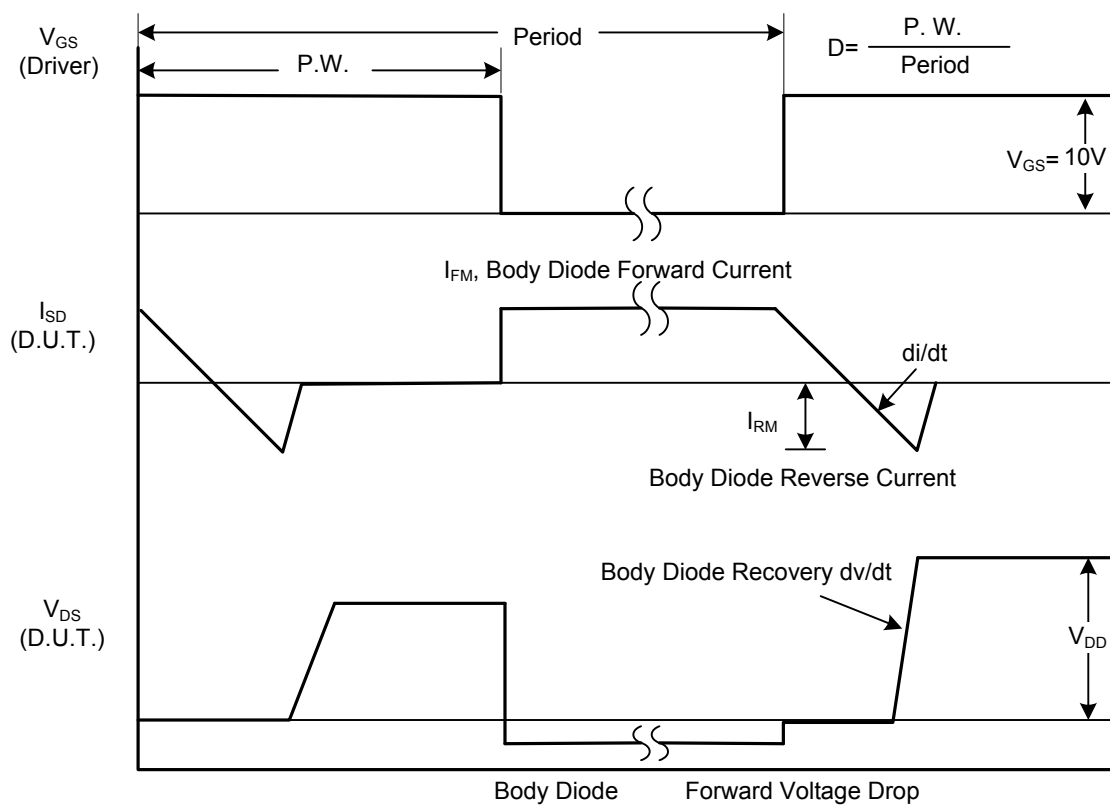
Notes: 1. Pulse Test: Pulse width $\leq 300\mu s$, Duty cycle $\leq 2\%$.

2. Essentially independent of operating temperature.

■ TEST CIRCUITS AND WAVEFORMS

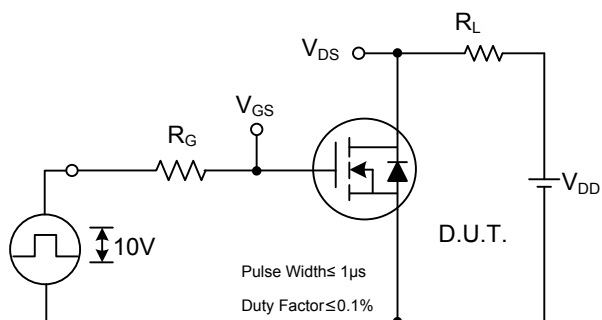


Peak Diode Recovery dv/dt Test Circuit

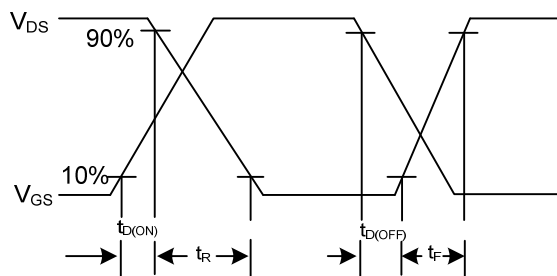


Peak Diode Recovery dv/dt Waveforms

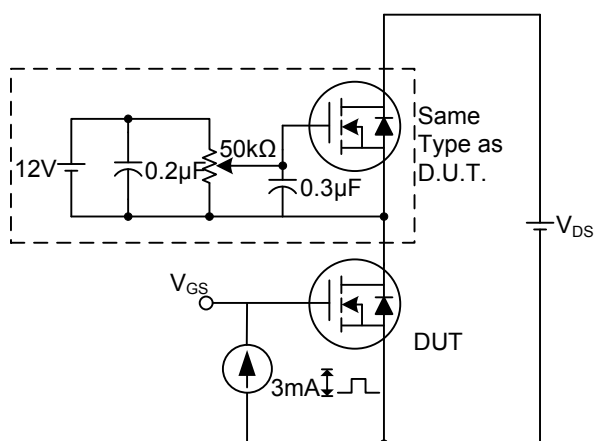
■ TEST CIRCUITS AND WAVEFORMS (Cont.)



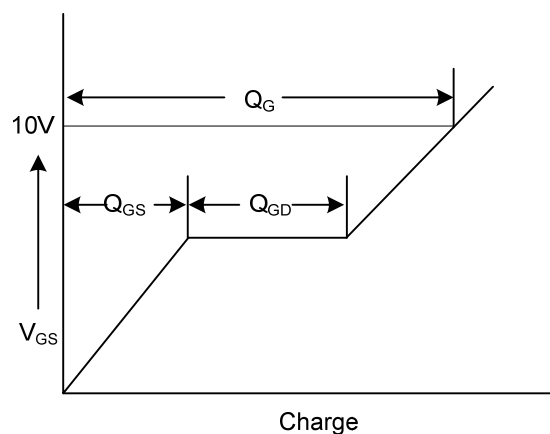
Switching Test Circuit



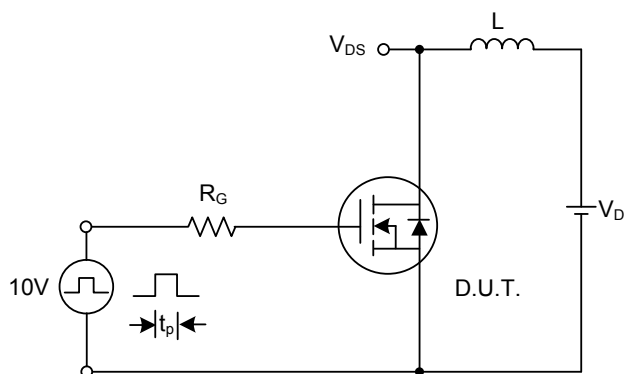
Switching Waveforms



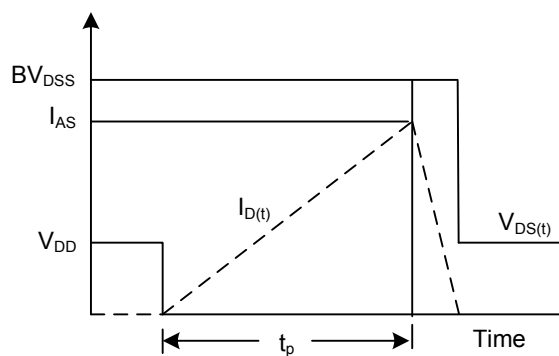
Gate Charge Test Circuit



Gate Charge Waveform



Unclamped Inductive Switching Test Circuit



Unclamped Inductive Switching Waveforms

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