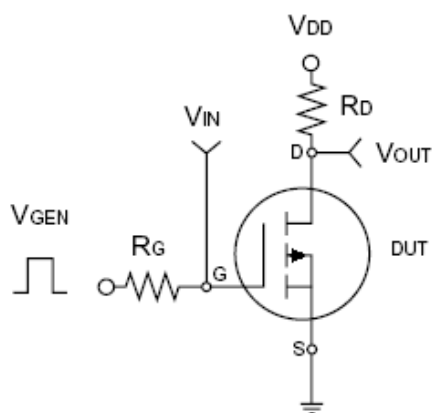


Electrical Specifications ($T_C = 25^\circ\text{C}$ unless otherwise noted)

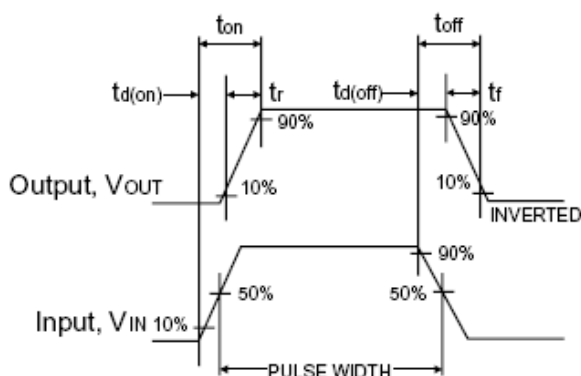
Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Static						
Drain-Source Breakdown Voltage	$V_{GS} = 0V, I_D = -250\mu A$	BV_{DSS}	-30	--	--	V
Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = -250\mu A$	$V_{GS(TH)}$	-1	--	-3	V
Gate Body Leakage	$V_{GS} = \pm 20V, V_{DS} = 0V$	I_{GSS}	--	--	± 100	nA
Zero Gate Voltage Drain Current	$V_{DS} = -30V, V_{GS} = 0V$	I_{DSS}	--	--	-1.0	μA
On-State Drain Current ^a	$V_{DS} = -5V, V_{GS} = -10V$	$I_{D(ON)}$	-50	--	--	A
Drain-Source On-State Resistance ^a	$V_{GS} = -10V, I_D = -11A$	$R_{DS(ON)}$	--	10	12	m Ω
	$V_{GS} = -4.5V, I_D = -8.5A$		--	15	19	
Forward Transconductance ^a	$V_{DS} = -15V, I_D = -11A$	g_{fs}	--	23	--	S
Diode Forward Voltage	$I_S = -2.1A, V_{GS} = 0V$	V_{SD}	--	--	-1.3	V
Dynamic^b						
Total Gate Charge	$V_{DS} = -15V, I_D = -11A, V_{GS} = -10V$	Q_g	--	64	--	nC
Gate-Source Charge		Q_{gs}	--	11	--	
Gate-Drain Charge		Q_{gd}	--	25	--	
Input Capacitance	$V_{DS} = -8V, V_{GS} = 0V, f = 1.0MHz$	C_{iss}	--	3680	--	pF
Output Capacitance		C_{oss}	--	930	--	
Reverse Transfer Capacitance		C_{rss}	--	620	--	
Switching^c						
Turn-On Delay Time	$V_{DD} = 15V, R_L = 15\Omega, I_D = -11A, V_{GEN} = -10V, R_G = 6\Omega$	$t_{d(on)}$	--	15	--	ns
Turn-On Rise Time		t_r	--	13	--	
Turn-Off Delay Time		$t_{d(off)}$	--	100	--	
Turn-Off Fall Time		t_f	--	53	--	

Notes:

- a. pulse test: $PW \leq 300\mu s$, duty cycle $\leq 2\%$
- b. For DESIGN AID ONLY, not subject to production testing.
- b. Switching time is essentially independent of operating temperature.



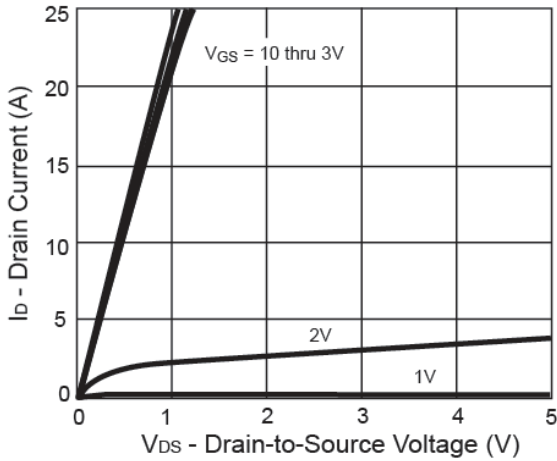
Switching Test Circuit



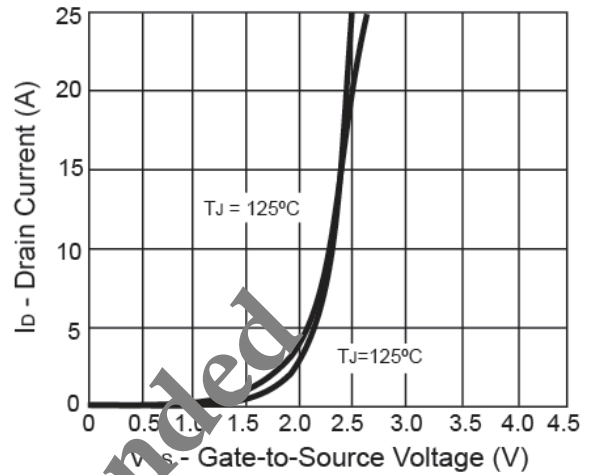
Switchin Waveforms

Electrical Characteristics Curve

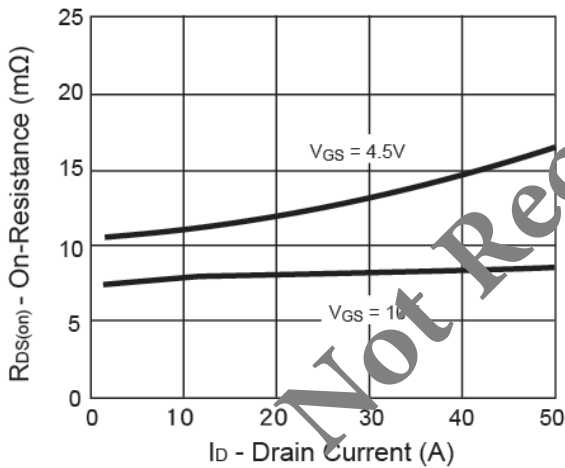
Output Characteristics



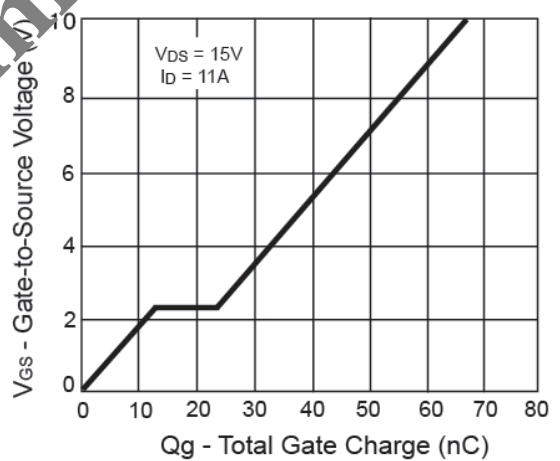
Transfer Characteristics



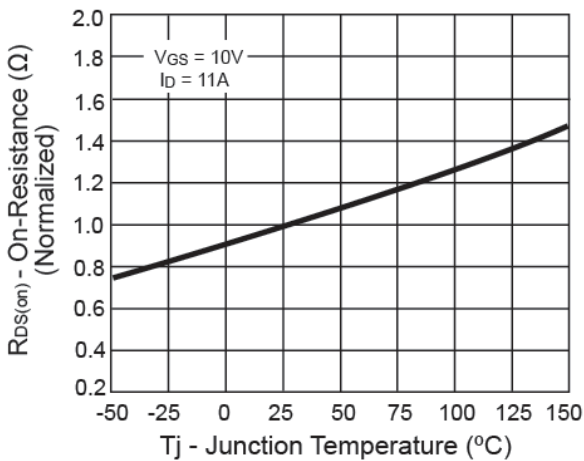
On-Resistance vs. Drain Current



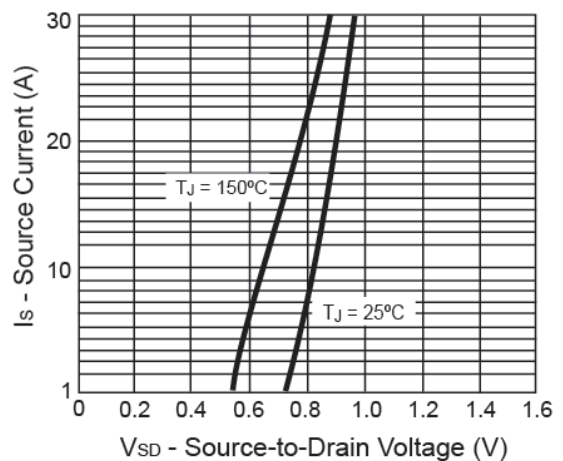
Gate Charge



On-Resistance vs. Junction Temperature

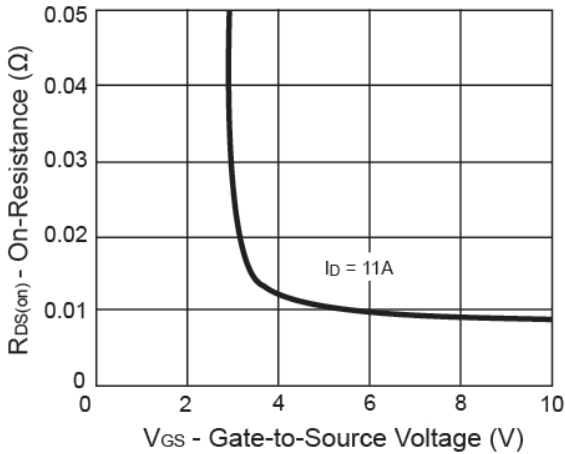


Source-Drain Diode Forward Voltage

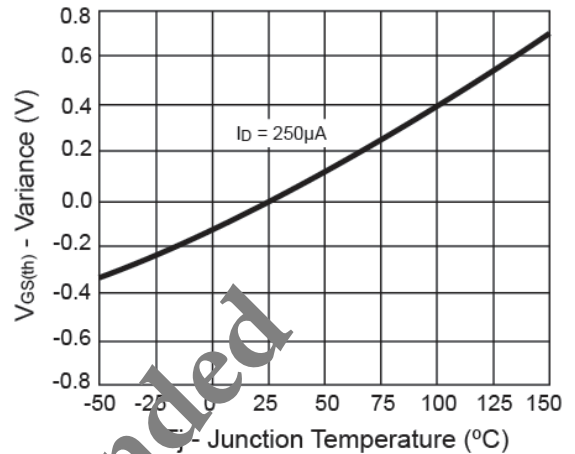


Electrical Characteristics Curve

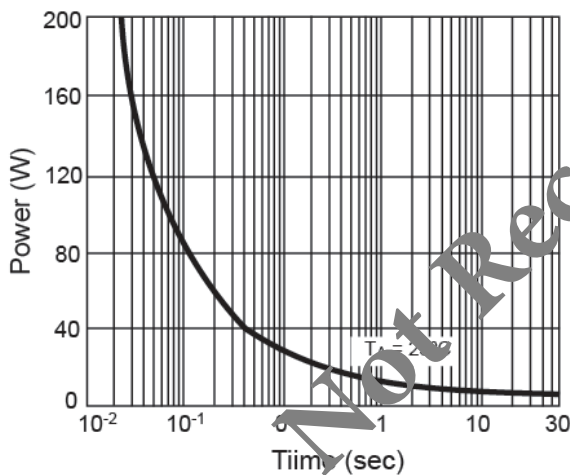
On-Resistance vs. Gate-Source Voltage



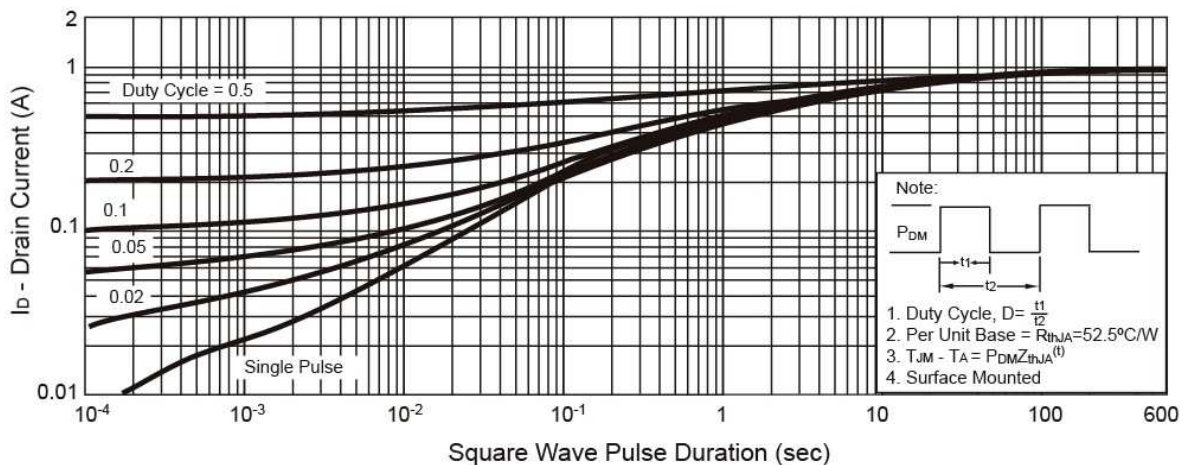
Threshold Voltage



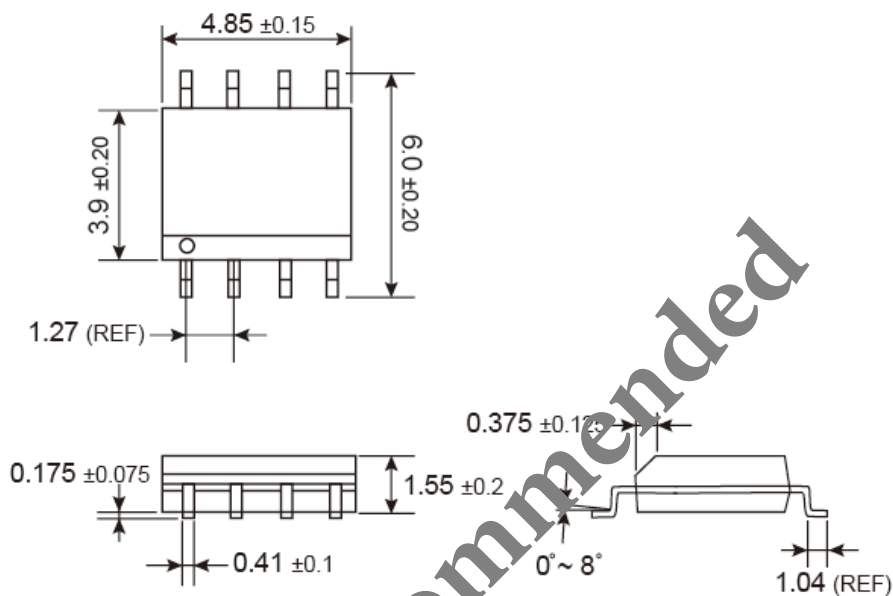
Single Pulse Power



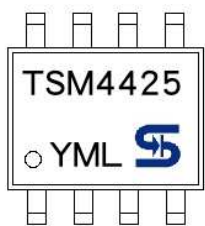
Normalized Thermal Transient Impedance, Junction-to-Ambient



SOP-8 Mechanical Drawing



Marking Diagram



Not Recommended

- Y = Year Code
- M = Month Code for Halogen Free Product
 - O =Jan P =Feb Q =Mar R =Apr
 - S =May T =Jun U =Jul V =Aug
 - W =Sep X =Oct Y =Nov Z =Dec
- L = Lot Code



TSM4425

30V P-Channel MOSFET

Not Recommended

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