
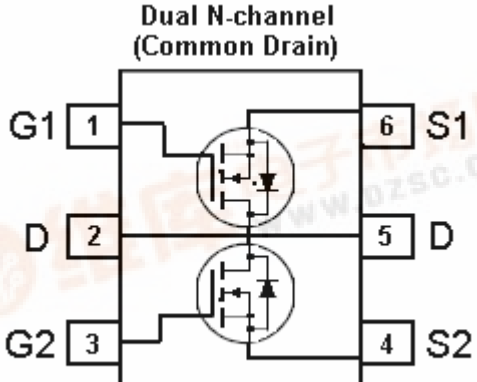
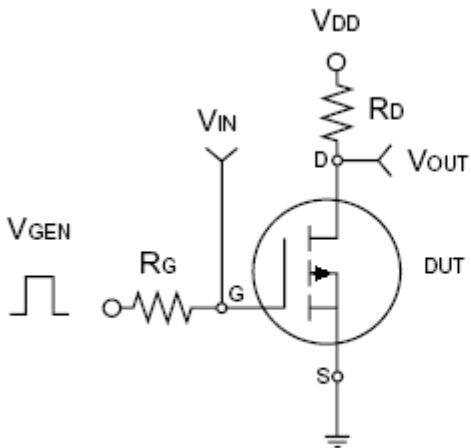
	<h1>TSM9966DCX6</h1> <h2>20V Dual N-Channel Enhancement Mode MOSFET</h2>																																						
	<p>Pin assignment:</p> <ol style="list-style-type: none"> 1. Gate 1 2. Drain 3. Gate 2 4. Source 2 5. Drain 6. Source 1 		<p>$V_{DS} = 20V$ $R_{DS(on)}, V_{GS} @ 4.5V, I_{DS} @ 5A = 30m\Omega$ $R_{DS(on)}, V_{GS} @ 2.5V, I_{DS} @ 4A = 40m\Omega$</p>																																				
<h3>Features</h3> <ul style="list-style-type: none"> ✧ Advanced trench process technology ✧ High density cell design for ultra low on-resistance ✧ Excellent thermal and electrical capabilities ✧ Surface mount ✧ Fast switching 		<h3>Block Diagram</h3>  <p style="text-align: center;">Dual N-channel (Common Drain)</p>																																					
<h3>Ordering Information</h3> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Part No.</th> <th>Packing</th> <th>Package</th> </tr> </thead> <tbody> <tr> <td>TSM9966DCX6</td> <td>Tape & Reel</td> <td>SOT-26</td> </tr> </tbody> </table>				Part No.	Packing	Package	TSM9966DCX6	Tape & Reel	SOT-26																														
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Note: Surface mounted on FR4 board $t \leq 5sec$.

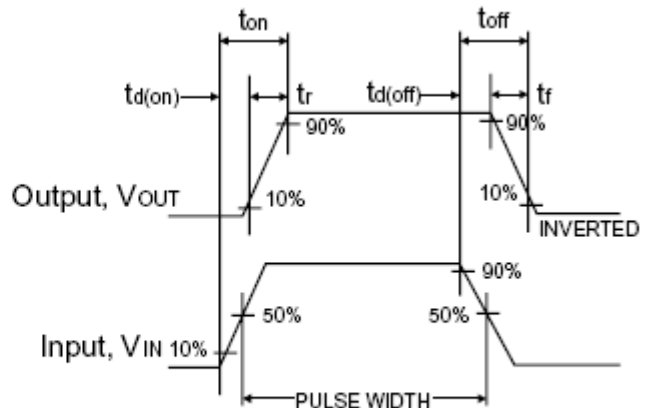


Electrical Characteristics (per channel)						
Ta = 25 °C unless otherwise noted						
Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Static						
Drain-Source Breakdown Voltage	V _{GS} = 0V, I _D = 250uA	BV _{DSS}	20	--	--	V
Drain-Source On-State Resistance	V _{GS} = 4.5V, I _D = 5A	R _{DS(ON)}	--	25	30	mΩ
Drain-Source On-State Resistance	V _{GS} = 2.5V, I _D = 4A	R _{DS(ON)}	--	30	40	
Gate Threshold Voltage	V _{DS} = V _{GS} , I _D = 250uA	V _{GS(TH)}	0.6	--	--	V
Zero Gate Voltage Drain Current	V _{DS} = 20V, V _{GS} = 0V	I _{DSS}	--	--	1.0	uA
Gate Body Leakage	V _{GS} = ± 12V, V _{DS} = 0V	I _{GSS}	--	--	± 100	nA
Forward Transconductance	V _{DS} = 10V, I _D = 5A	g _{fs}	7	13	--	S
Dynamic						
Total Gate Charge	V _{DS} = 10V, I _D = 5A, V _{GS} = 4.5V	Q _g	--	4.8	--	nC
Gate-Source Charge		Q _{gs}	--	0.9	--	
Gate-Drain Charge		Q _{gd}	--	1.4	--	
Turn-On Delay Time	V _{DD} = 10V, R _L = 10Ω, I _D = 1A, V _{GEN} = 4.5V, R _G = 6Ω	t _{d(on)}	--	8.1	15	nS
Turn-On Rise Time		t _r	--	9.9	--	
Turn-Off Delay Time		t _{d(off)}	--	21.8	--	
Turn-Off Fall Time		t _f	--	5.3	--	
Input Capacitance	V _{DS} = 10V, V _{GS} = 0V, f = 1.0MHz	C _{iss}	--	562	--	pF
Output Capacitance		C _{oss}	--	106	--	
Reverse Transfer Capacitance		C _{rss}	--	75	--	
Source-Drain Diode						
Max. Diode Forward Current		I _S	--	--	1.7	A
Diode Forward Voltage	I _S = 1.7A, V _{GS} = 0V	V _{SD}	--	0.75	1.2	V

Note : pulse test: pulse width <=300uS, duty cycle <=2%



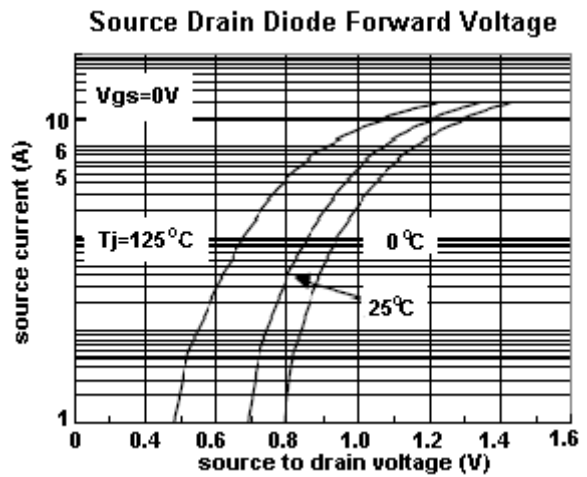
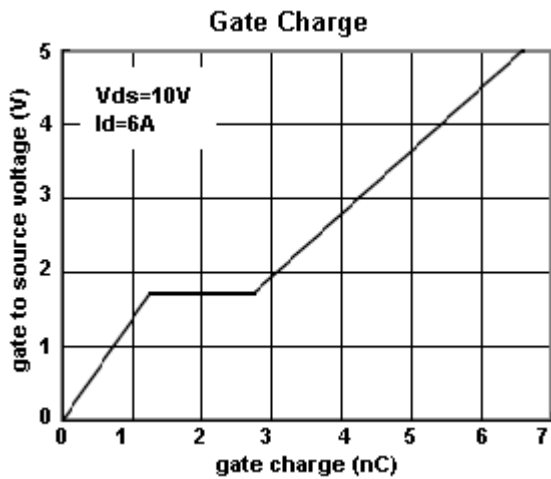
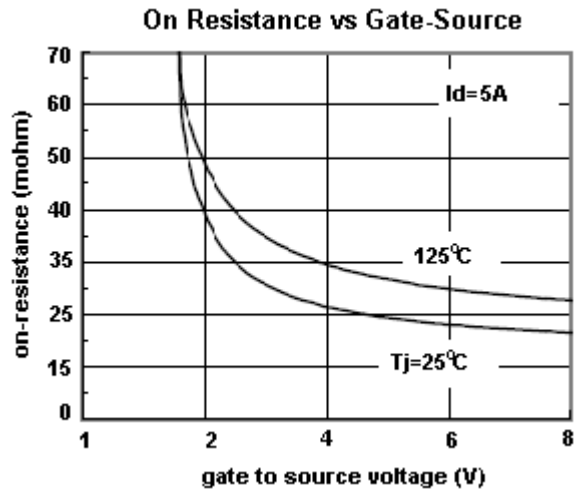
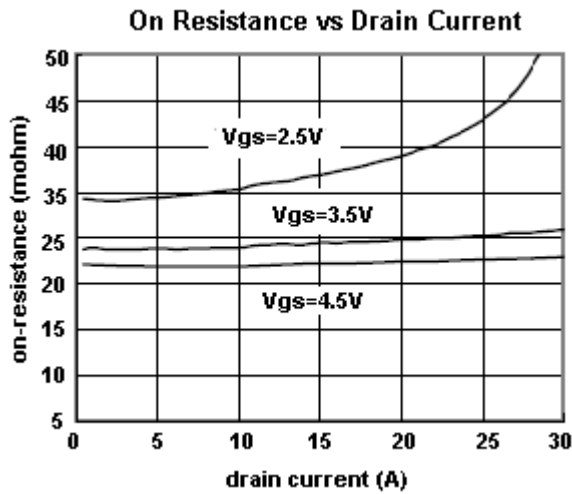
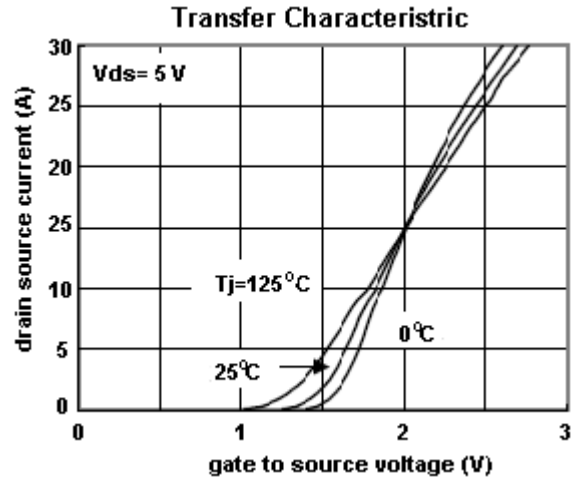
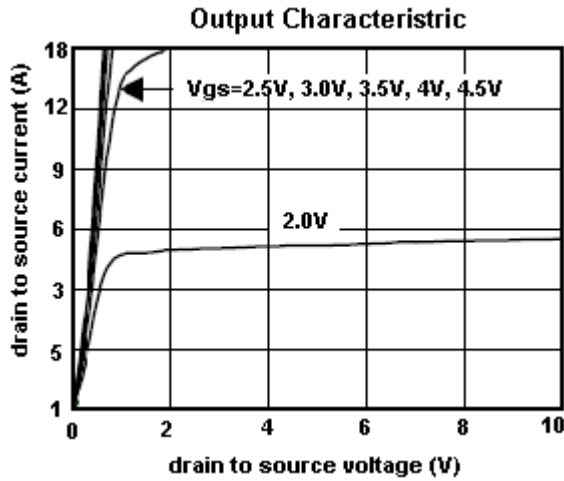
Switching Test Circuit



Switchin Waveforms

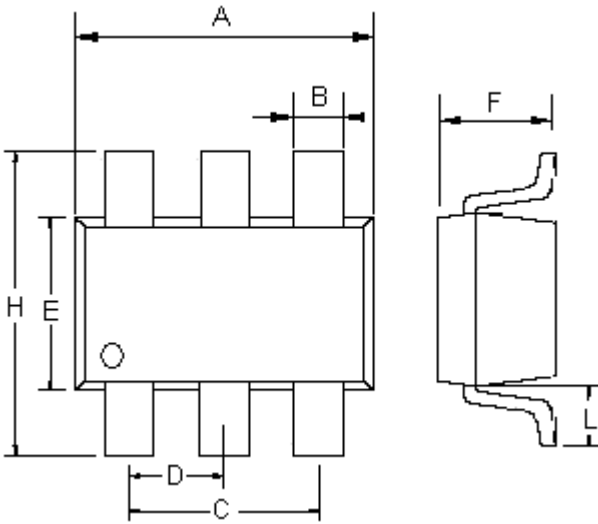


Typical Characteristics Curve (Ta = 25 °C unless otherwise noted)





SOT-26 Mechanical Drawing



SOT-26 DIMENSION				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.70	3.00	0.106	0.118
B	0.25	0.50	0.010	0.020
C	1.90(typ)		0.075(typ)	
D	0.95(typ)		0.037(typ)	
E	1.50	1.70	0.059	0.067
F	1.05	1.35	0.041	0.053
H	2.60	3.00	0.102	0.118
L	0.60(typ)		0.024(typ)	