

SOT-26



Pin Definition:

- | | |
|-------------|-------------|
| 1. Gate 1 | 6. Drain 1 |
| 2. Source 2 | 5. Source 1 |
| 3. Gate 2 | 4. Drain 2 |

Key Parameter Performance

Parameter		Value	Unit
V_{DS}		-20	V
$R_{DS(on)}$ (max)	$V_{GS} = -4.5V$	140	mΩ
	$V_{GS} = -2.5V$	200	
	$V_{GS} = -1.8V$	300	
Q_g		15.23	nC

Features

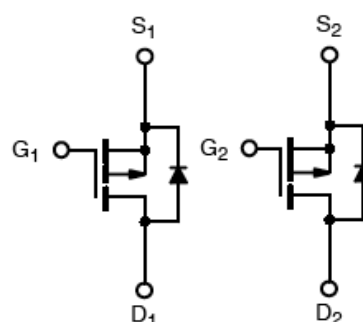
- Advance Trench Process Technology
- High Density Cell Design for Ultra Low On-resistance

Ordering Information

Part No.	Package	Packing
TSM3911DCX6 RFG	SOT-26	3kpcs / 7" Reel

Note: "G" denotes for Halogen- and Antimony-free as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds

Block Diagram



Dual P-Channel MOSFET

Absolute Maximum Ratings ($T_A=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 8	V
Continuous Drain Current	I_D	-2.2	A
Pulsed Drain Current	I_{DM}	-8	A
Continuous Source Current (Diode Conduction) (Note 1,2)	I_S	-0.72	A
Maximum Power Dissipation	P_D	$T_A=25^{\circ}C$ 1.15	W
		$T_A=70^{\circ}C$ 0.73	
Operating Junction Temperature	T_J	+150	$^{\circ}C$
Operating Junction and Storage Temperature Range	T_J, T_{STG}	- 55 to +150	$^{\circ}C$

Thermal Performance

Parameter	Symbol	Limit	Unit
Junction to Case Thermal Resistance	$R_{\theta JC}$	30	$^{\circ}C/W$
Junction to Ambient Thermal Resistance (PCB mounted)	$R_{\theta JA}$	80	$^{\circ}C/W$

Electrical Specifications

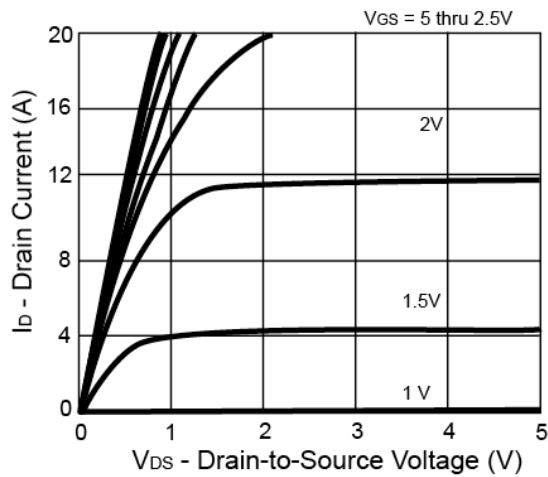
Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Static (Note 3)						
Drain-Source Breakdown Voltage	V _{GS} = 0V, I _D = -250μA	BV _{DSS}	-20	--	--	V
Gate Threshold Voltage	V _{DS} = V _{GS} , I _D = -250μA	V _{GS(TH)}	-0.45	--	-0.95	V
Gate Body Leakage	V _{GS} = ±8V, V _{DS} = 0V	I _{GSS}	--	--	±100	nA
Zero Gate Voltage Drain Current	V _{DS} = -16V, V _{GS} = 0V	I _{DSS}	--	--	-1.0	μA
On-State Drain Current	V _{DS} = -5V, V _{GS} = -5V	I _{D(ON)}	-5	--	--	A
Drain-Source On-State Resistance	V _{GS} = -4.5V, I _D = -2.2A	R _{DS(ON)}	--	115	140	mΩ
	V _{GS} = -2.5V, I _D = -1.8A		--	163	200	
	V _{GS} = -1.8V, I _D = -1A		--	220	300	
Forward Transconductance	V _{DS} = -5V, I _D = -2.2A	g _{fs}	--	5	--	S
Diode Forward Voltage	I _S = -1.05A, V _{GS} = 0V	V _{SD}	--	- 0.8	-1.2	V
Dynamic (Note 4)						
Total Gate Charge	V _{DS} = -6V, I _D = -2.8A, V _{GS} = -4.5V	Q _g	--	15.23	--	nC
Gate-Source Charge		Q _{gs}	--	5.49	--	
Gate-Drain Charge		Q _{gd}	--	2.74	--	
Input Capacitance	V _{DS} = -6V, V _{GS} = 0V, f = 1.0MHz	C _{iss}	--	882.51	--	pF
Output Capacitance		C _{oss}	--	145.54	--	
Reverse Transfer Capacitance		C _{rss}	--	97.26	--	
Switching (Note 4,5)						
Turn-On Delay Time	V _{DD} = -6V, R _L = 6Ω, I _D = -1A, V _{GEN} = -4.5V, R _G = 6Ω	t _{d(on)}	--	17.28	--	ns
Turn-On Rise Time		t _r	--	3.73	--	
Turn-Off Delay Time		t _{d(off)}	--	36.05	--	
Turn-Off Fall Time		t _f	--	6.19	--	

Notes:

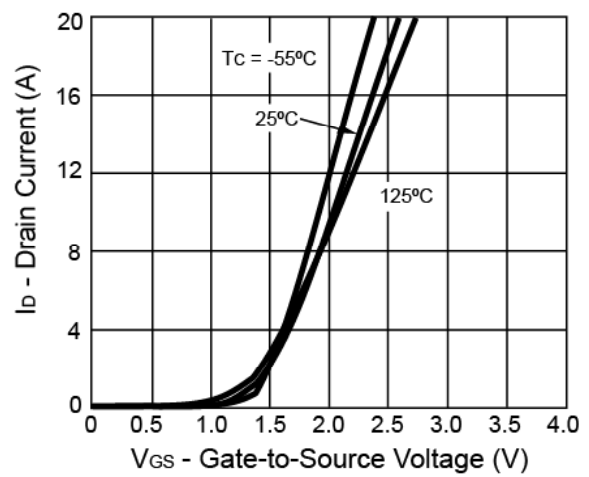
1. Pulse width limited by the Maximum junction temperature
2. Surface Mounted on FR4 Board, $t \leq 5$ sec.
3. pulse test: $PW \leq 300\mu S$, duty cycle $\leq 2\%$
4. For DESIGN AID ONLY, not subject to production testing.
5. Switching time is essentially independent of operating temperature.

Electrical Characteristics Curves

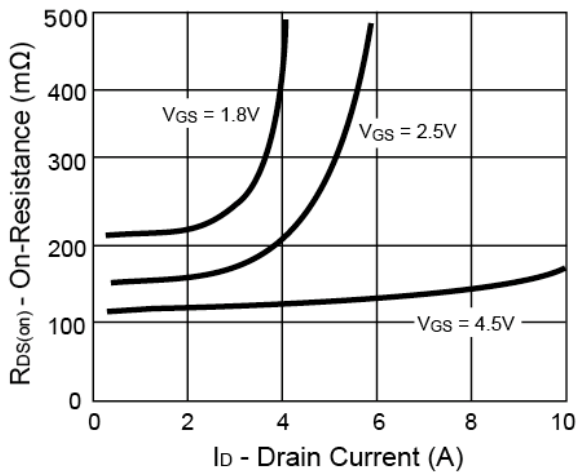
Output Characteristics



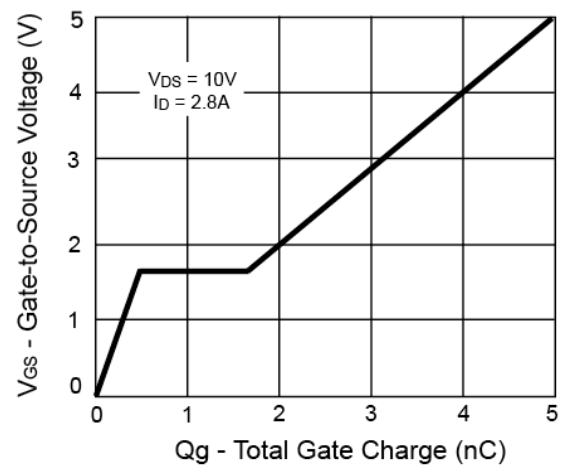
Transfer Characteristics



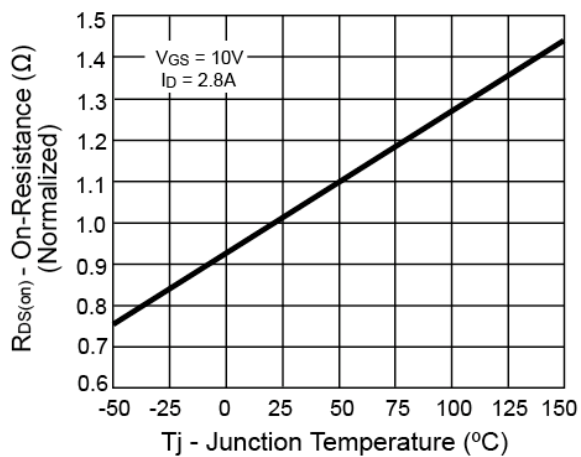
On-Resistance vs. Drain Current



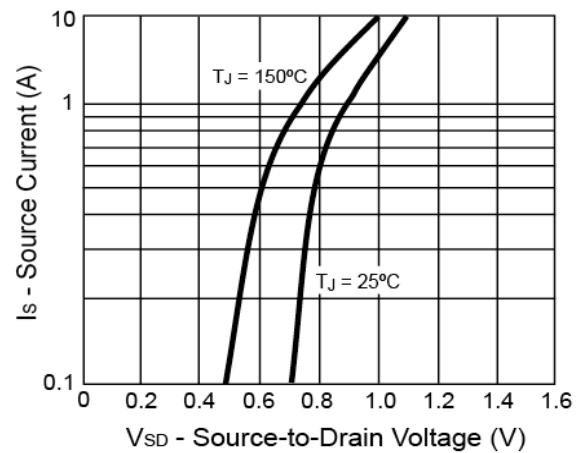
Gate Charge



On-Resistance vs. Junction Temperature

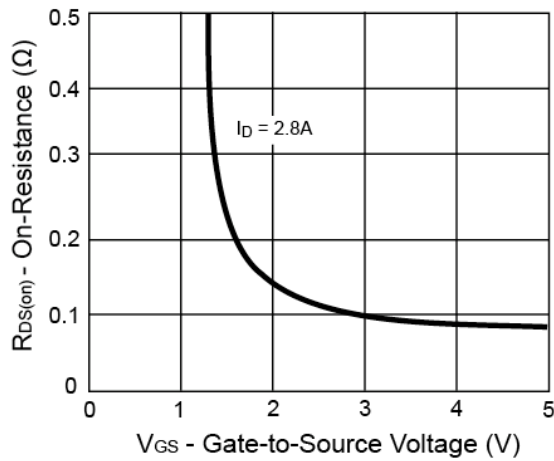


Source-Drain Diode Forward Voltage

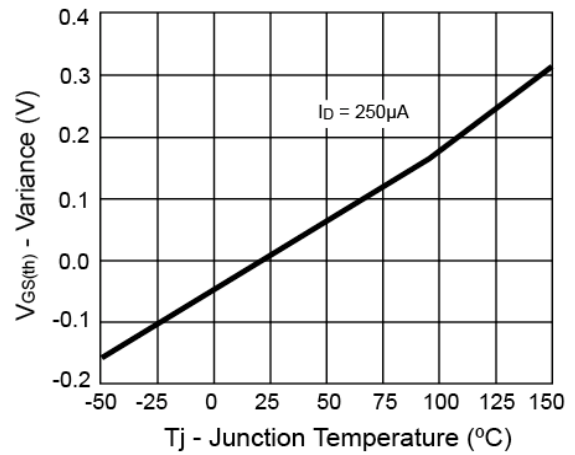


Electrical Characteristics Curves

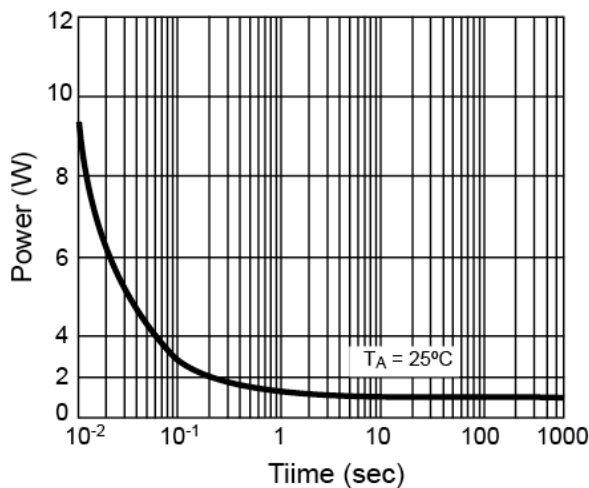
On-Resistance vs. Gate-Source Voltage



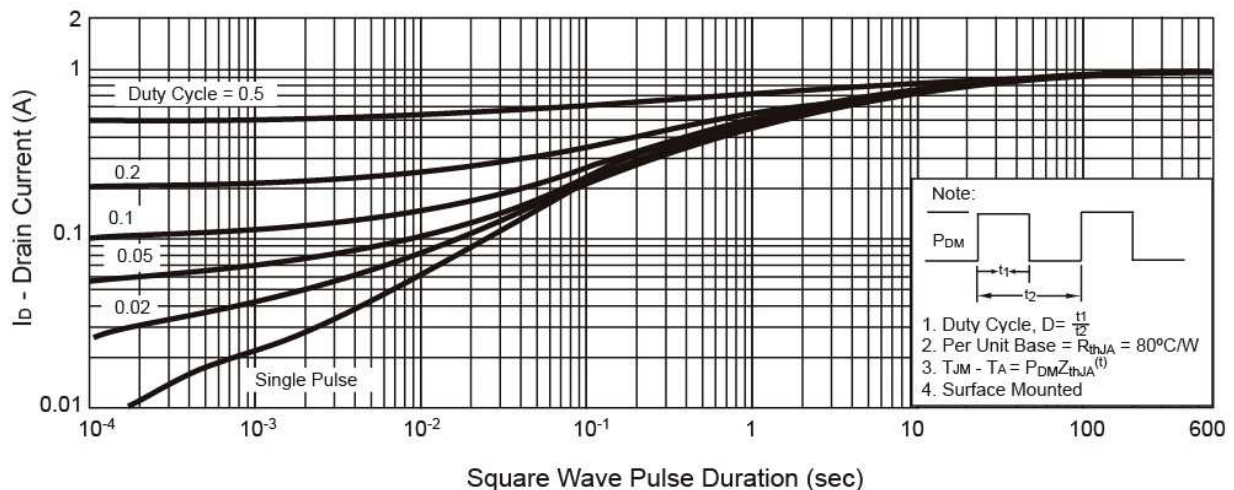
Threshold Voltage



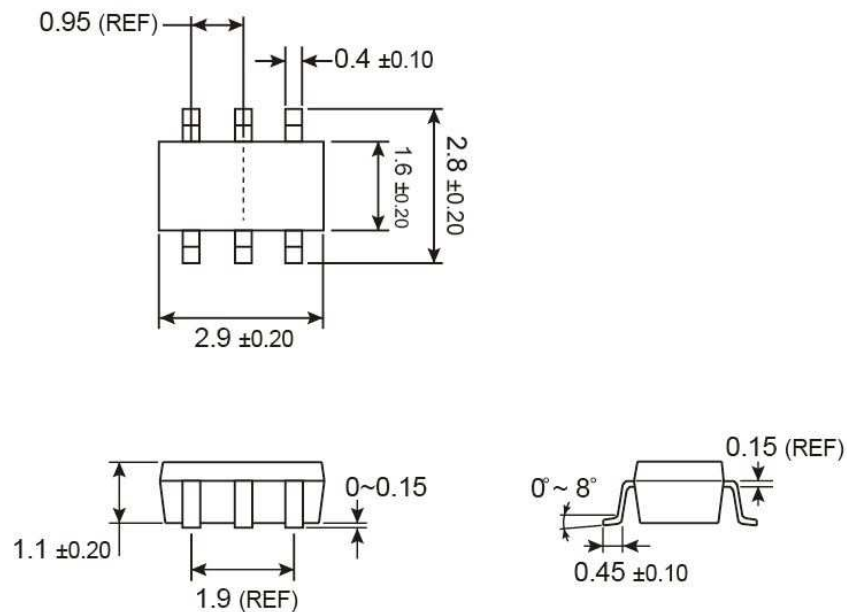
Single Pulse Power



Normalized Thermal Transient Impedance, Junction-to-Ambient

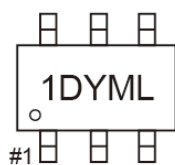


SOT-26 Mechanical Drawing



Unit: Millimeters

Marking Diagram



- 1D** = Device Code
- 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

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