
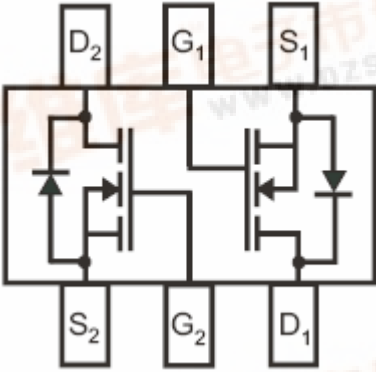
	<h2 style="margin: 0;">TSM2N7002ED</h2> <h3 style="margin: 0;">50V Dual N-Channel Enhancement Mode MOSFET</h3>																																			
 <p>SOT-363 6 5 4 1 2 3</p>	<p>Pin assignment:</p> <table border="0"> <tr> <td>1. Source (2)</td> <td>6. Drain (2)</td> </tr> <tr> <td>2. Gate (2)</td> <td>5. Gate (1)</td> </tr> <tr> <td>3. Drain (1)</td> <td>4. Source (1)</td> </tr> </table>		1. Source (2)	6. Drain (2)	2. Gate (2)	5. Gate (1)	3. Drain (1)	4. Source (1)	<p>V_{DS} = 50V R_{DS(on)}, V_{GS} @ 10V, I_{DS} @ 250mA = 3Ω R_{DS(on)}, V_{GS} @ 5V, I_{DS} @ 50mA = 4Ω</p>																											
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<h3>Features</h3>		<h3>Ordering Information</h3>																																		
<ul style="list-style-type: none"> ◇ Dual N-channel in package. ◇ Advanced trench process technology ◇ High density cell design for ultra low on-resistance ◇ High input impedance ◇ High speed switching ◇ No minority carrier storage time ◇ CMOS logic compatible input ◇ No secondary breakdown ◇ Compact and low profile SOT-363 package 		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Part No.</th> <th style="text-align: center;">Packing</th> <th style="text-align: center;">Package</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">TSM2N7002EDCU6</td> <td style="text-align: center;">T & R (3kpcs/Reel)</td> <td style="text-align: center;">SOT-363</td> </tr> </tbody> </table>		Part No.	Packing	Package	TSM2N7002EDCU6	T & R (3kpcs/Reel)	SOT-363																											
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Note: Surface mounted on FR4 board t<=5sec.

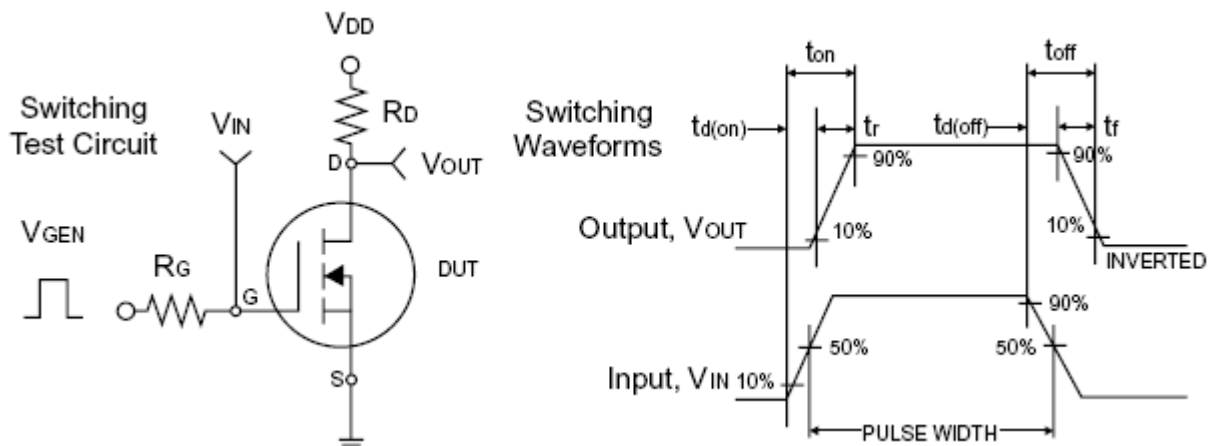




Electrical Characteristics (Single Channel)						
T _j = 25 °C unless otherwise noted						
Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Static						
Drain-Source Breakdown Voltage	V _{GS} = 0V, I _D = 10uA	BV _{DSS}	50	--	--	V
Drain-Source On-State Resistance	V _{GS} = 10V, I _D = 250mA	R _{DS(ON)}	--	--	3	Ω
Drain-Source On-State Resistance	V _{GS} = 5V, I _D = 50mA	R _{DS(ON)}	--	--	4	
Gate Threshold Voltage	V _{DS} = V _{GS} , I _D = 250uA	V _{GS(TH)}	1.0	2.0	2.5	V
Zero Gate Voltage Drain Current	V _{DS} = 50V, V _{GS} = 0V	I _{DSS}	--	--	1.0	uA
Gate Body Leakage	V _{GS} = ± 20V, V _{DS} = 0V	I _{GSS}	--	--	± 100	nA
On-State Drain Current	V _{DS} ≥ 7V, V _{GS} = 10V	I _{D(ON)}	500	--	--	mA
Forward Transconductance	V _{DS} = 7V, I _D = 200mA	g _{fs}	80	--	--	mS
Dynamic *						
Turn-On Delay Time	V _{DD} = 30V, I _D = 100mA, V _{GEN} = 10V, R _G = 10Ω	T _{D(ON)}	--	7.5	20	nS
Turn-On Rise Time		t _r	--	6	--	
Turn-Off Delay Time		T _{D(OFF)}	--	7.5	20	
Turn-Off Fall Time		t _f	--	3	--	
Input Capacitance	V _{DS} = 25V, V _{GS} = 0V, f = 1.0MHz	C _{iss}	--	19	50	pF
Output Capacitance		C _{oss}	--	10	25	
Reverse Transfer Capacitance		C _{rss}	--	3	5	
Source-Drain Diode						
Max. Diode Forward Current		I _S	--	--	115	mA
Diode Forward Voltage	I _S = 115mA, V _{GS} = 0V	V _{SD}	--	0.76	1.5	V

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

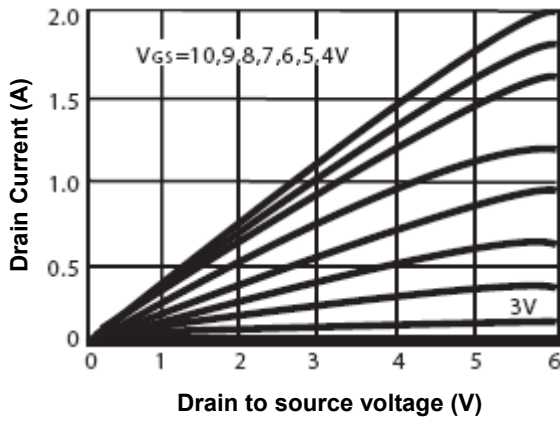
* Guaranteed by design, not subject to production testing.



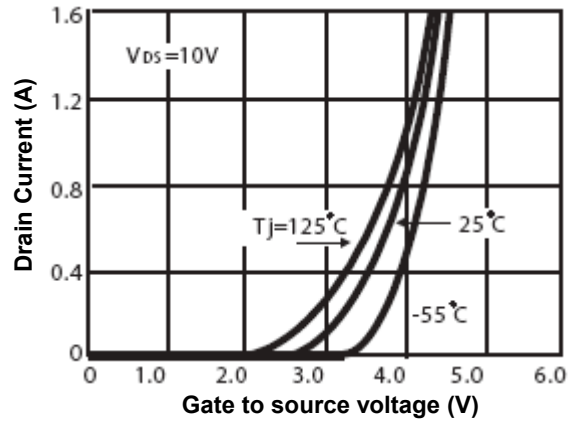


Typical Characteristics Curve - Single Channel ($T_a = 25^\circ\text{C}$ unless otherwise noted)

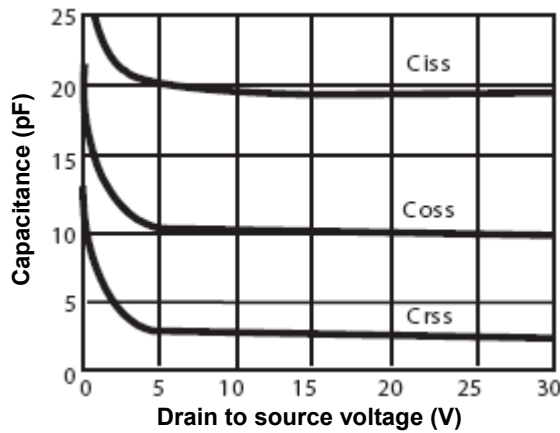
Output Characteristic



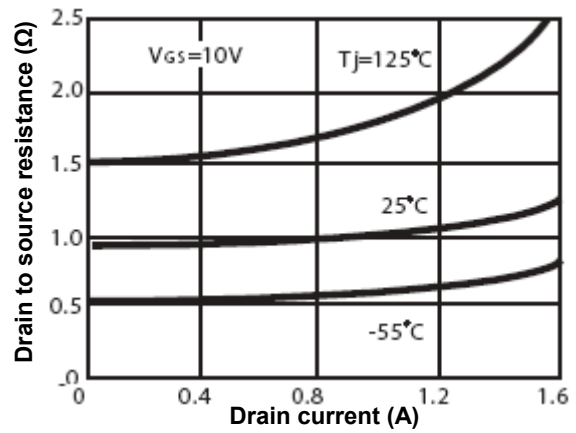
Transfer Characteristics



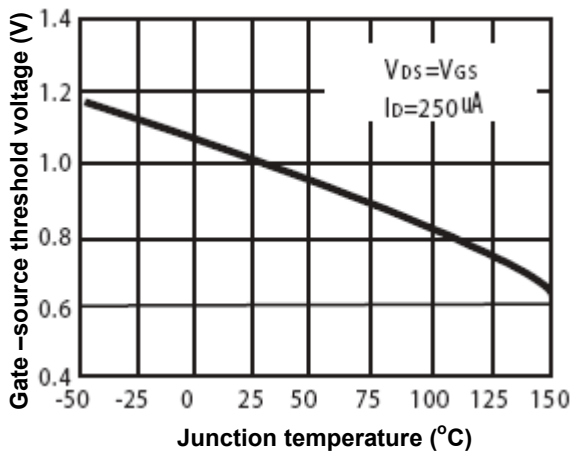
Capacitance



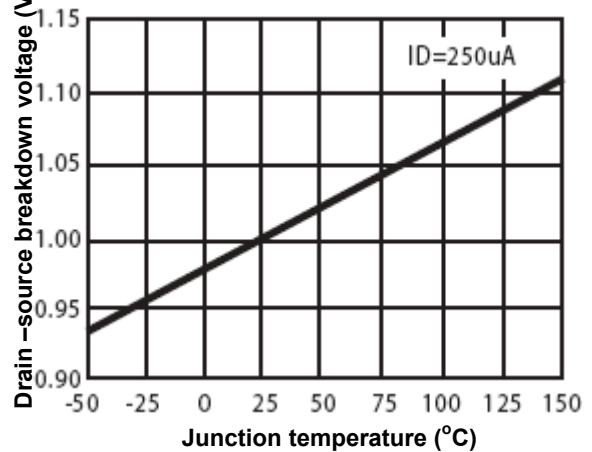
Rds(on) Variation with Drain Current



Vgs(th) with Temperature



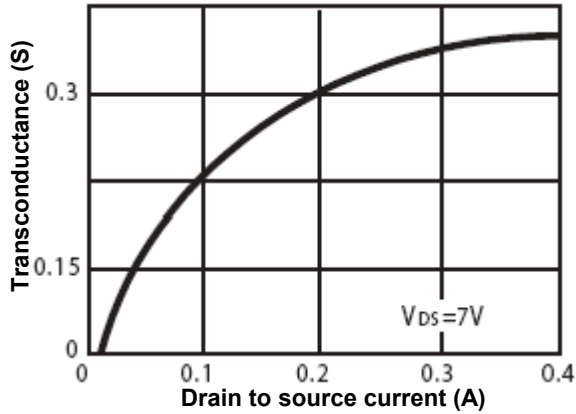
Vds breakdown with Temperature



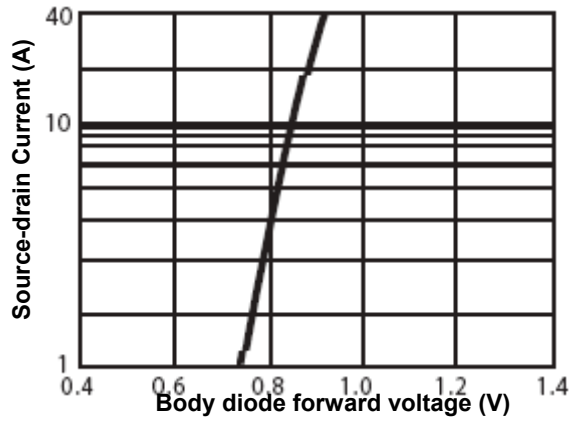


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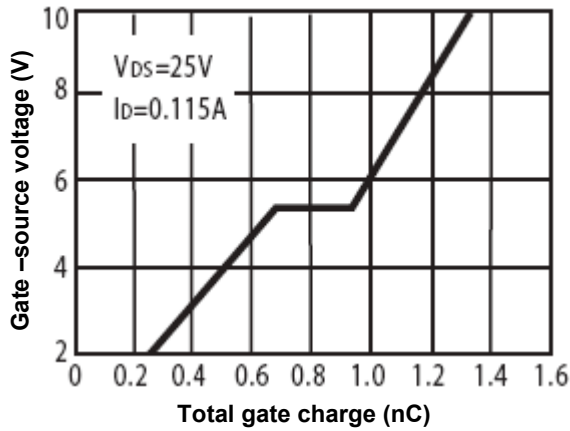
Transconductance Variation



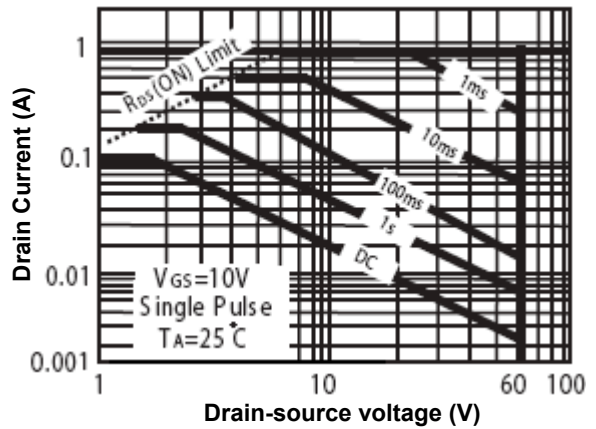
Body Diode Forward Voltage



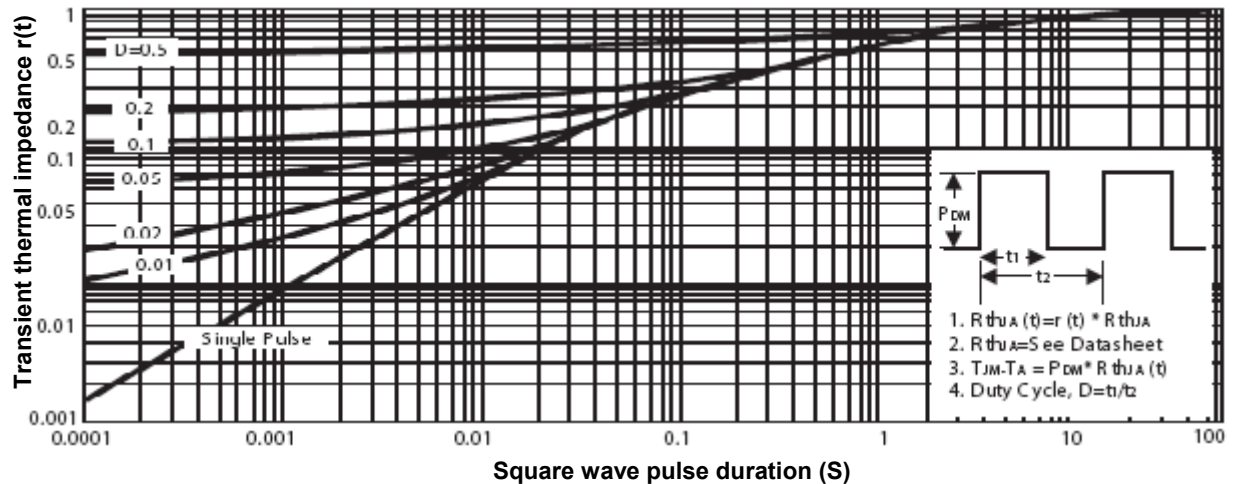
Gate Charge



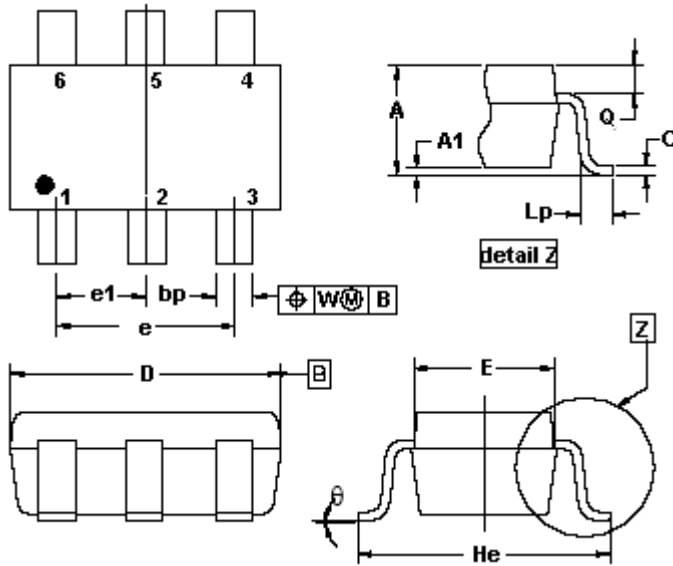
Maximum Safe Operating Area



Normalized Thermal Transient Impedance Curve



SOT-363 Mechanical Drawing



SOT-363 DIMENSION				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.80	1.10	0.031	0.043
A1	--	0.10	--	0.004
bp	0.10	0.30	0.004	0.012
C	0.10	0.25	0.004	0.010
D	1.80	2.20	0.071	0.087
E	1.15	1.35	0.045	0.053
e	1.30 (typ)		0.052 (typ)	
e1	0.65 (typ)		0.026 (typ)	
He	2.00	2.20	0.079	0.087
Lp	0.10	0.3	0.004	0.012
Q	0.20 (typ)		0.008 (typ)	
W	0.20 (typ)		0.008 (typ)	
Θ	10° (typ)		10° (typ)	