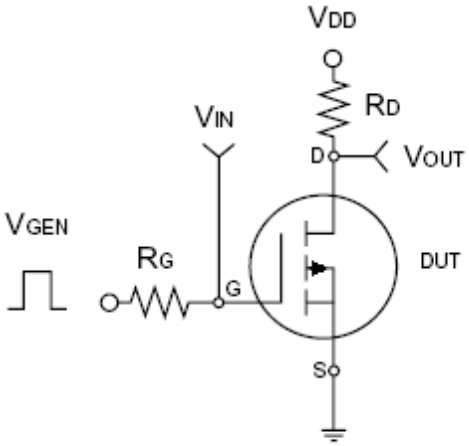
TSM2N7000K
60V N-Channel MOSFET

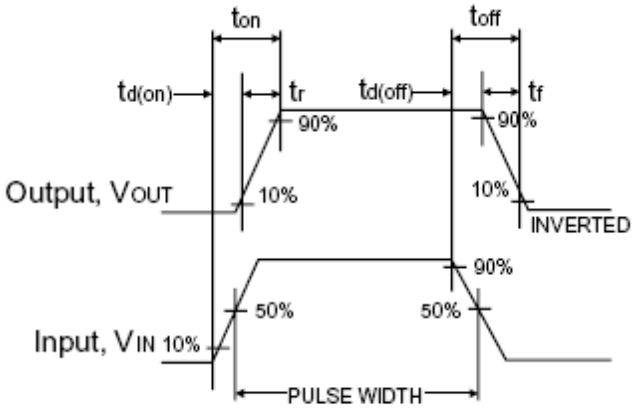
Electrical Specifications (Ta = 25°C, unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Static						
Drain-Source Breakdown Voltage	V_{GS} = 0V, I_D = 10μA	BV_{DSS}	60	--	--	V
Gate Threshold Voltage	V_{DS} = V_{GS}, I_D = 250μA	$V_{GS(TH)}$	1.0	--	2.5	V
Gate Body Leakage	V_{GS} = ±20V, V_{DS} = 0V	I_{GSS}	--	--	±10	uA
Zero Gate Voltage Drain Current	V_{DS} = 60V, V_{GS} = 0V	I_{DSS}	--	--	1.0	uA
Drain-Source On-State Resistance	V_{GS} = 10V, I_D = 100mA	$R_{DS(ON)}$	--	3	5	Ω
	V_{GS} = 5V, I_D = 100mA		--	3.6	5.5	
Forward Transconductance	V_{DS} = 10V, I_D = 200mA	g_{fs}	100	--	--	mS
Diode Forward Voltage	I_S = 300mA, V_{GS} = 0V	V_{SD}	--	0.9	1.2	V
Dynamic[b]						
Total Gate Charge	V_{DS} = 10V, I_D = 250mA, V_{GS} = 4.5V	Q_g	--	0.4	--	nC
Input Capacitance	V_{DS} = 25V, V_{GS} = 0V, f = 1.0MHz	C_{iss}	--	7.32	--	pF
Output Capacitance		C_{oss}	--	3.42	--	
Reverse Transfer Capacitance		C_{rss}	--	7.63	--	
Switching[c]						
Turn-On Delay Time	V_{DD} = 30V, R_G = 10Ω I_D = 100mA, V_{GEN} = 10V,	$t_{d(on)}$	--	25	--	nS
Turn-Off Delay Time		$t_{d(off)}$	--	35	--	

Notes:
a. pulse test: PW ≤300μS, duty cycle ≤2%
b. For DESIGN AID ONLY, not subject to production testing.
b. Switching time is essentially independent of operating temperature.



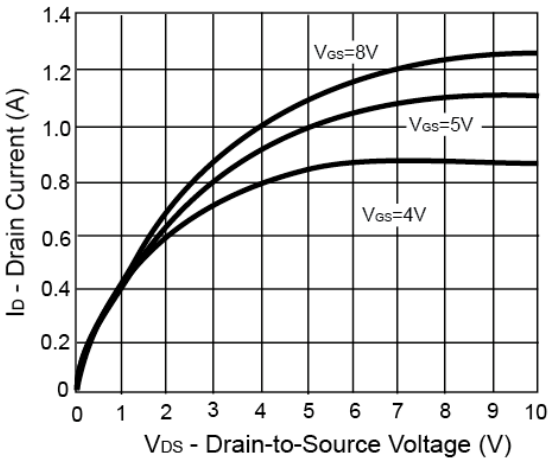
Switching Test Circuit



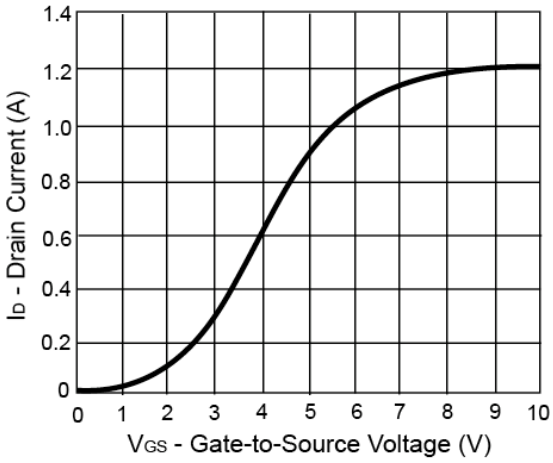
Switchin Waveforms

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

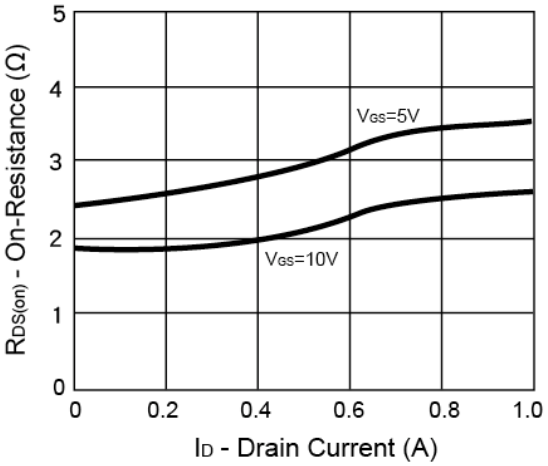
Output Characteristics



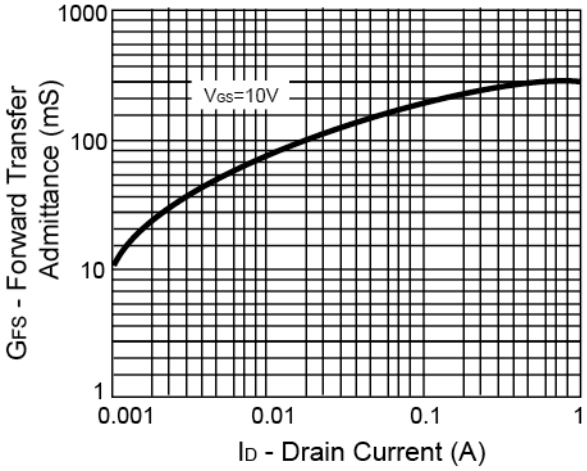
Transfer Characteristics



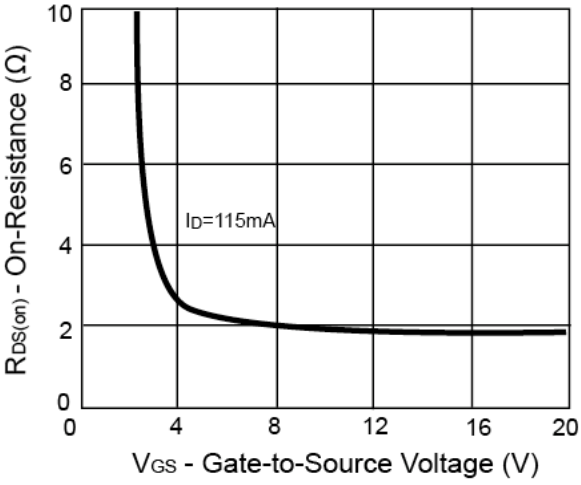
On-Resistance vs. Drain Current



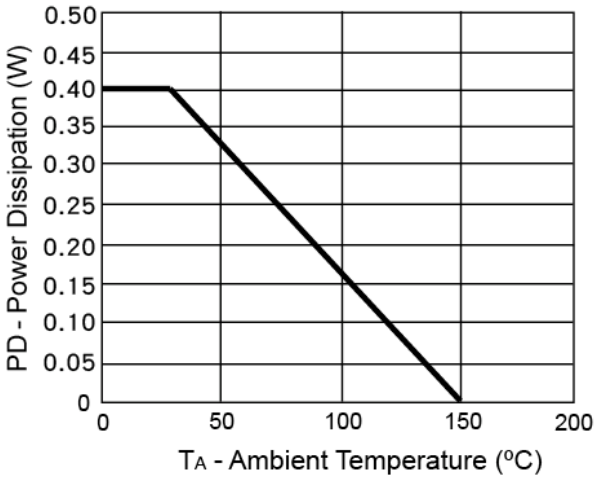
Forward Transfer Admittance vs. Drain Current



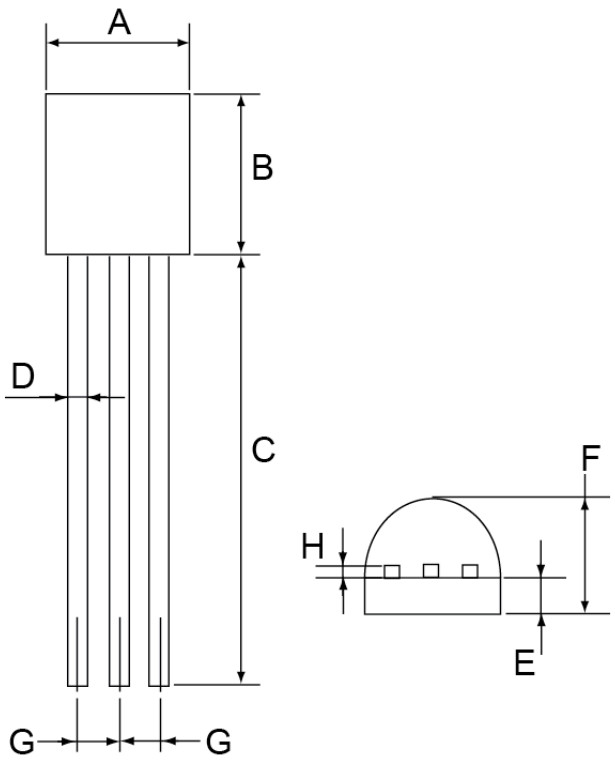
On-Resistance vs. Gate-Source Voltage



Power Derating Curve

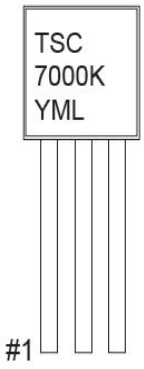


TO-92 Mechanical Drawing



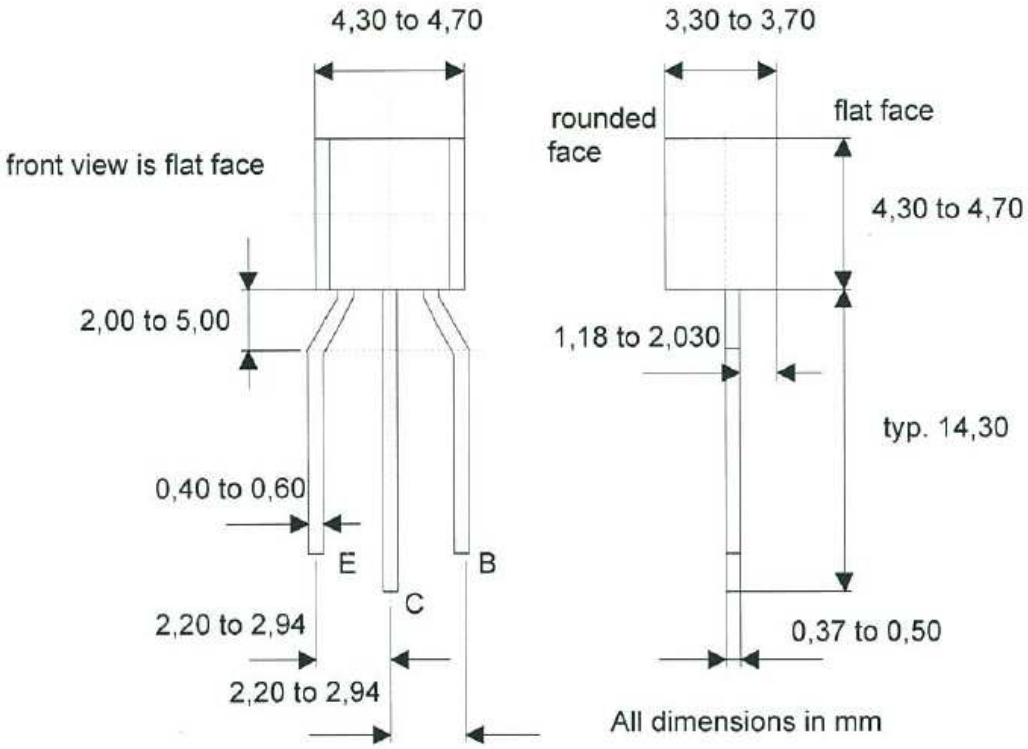
TO-92 DIMENSION				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.30	4.70	0.169	0.185
B	4.30	4.70	0.169	0.185
C	13.53 (typ)		0.532 (typ)	
D	0.39	0.49	0.015	0.019
E	1.18	1.28	0.046	0.050
F	3.30	3.70	0.130	0.146
G	1.27	1.31	0.050	0.051
H	0.33	0.43	0.013	0.017

Marking Diagram



Y = Year Code
M = Month Code
(**A**=Jan, **B**=Feb, **C**=Mar, **D**=Apl, **E**=May, **F**=Jun, **G**=Jul, **H**=Aug, **I**=Sep, **J**=Oct, **K**=Nov, **L**=Dec)
L = Lot Code

TO-92 Ammo Pack Mechanical Drawing



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