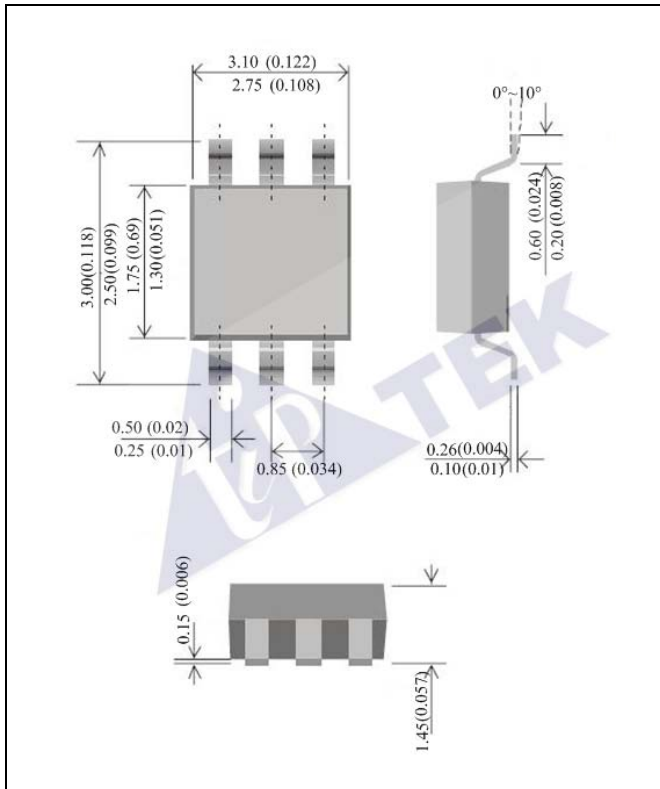


SMALL SIGNAL MOSFET 115mA 60V N-CHANNEL


CASE : SOT-23-6L

DIMENSIONS IN MILLIMETERS AND (INCHES)

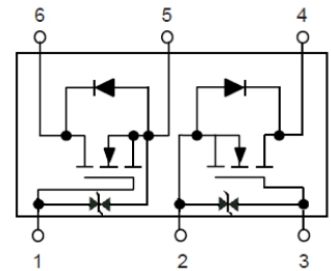
FEATURES

- FAST SWITCHING SPEED.
- EASILY DESIGNED DRIVE CIRCUITS.
- LOW ON-RESISTANCE
- ESD PROTECTED:1000V

MECHANICAL DATA

Pb-Free PACKAGE IS AVAILABLE.

- Pb Free: S2N7002DM
- Halogen Free: S2N7002DM-H


ABSOLUTE MAXIMUM RATINGS

RATINGS AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED.			
PATING	SYMBOL	VALUE	UNITS
DRAIN-SOURCE VOLTAGE	V_{DSS}	60	V
DRAIN-GATE VOLTAGE($R_{GS}=1.0M\Omega$)	V_{DGR}	60	V
GATE-SOURCE VOLTAGE	V_{GSS}	± 20	V
MAXIMUM DRAIN CURRENT-CONTINUE	I_D	115	mA
TOTAL POWER DISSIPATION (NOTE1)	P_D	225	mW
JUNCTION AND STORAGE TEMPERATURE RANGE	$T_j; T_{STG}$	- 55 TO +150	°C
THERMAL RESISTANCE, JUNCTION-TO-AMBIENT	$R_{\theta JA}$	417	°C/W

NOTE: 1. WHEN MOUNTED ON A 1*0.75*0.062 INCH GLASS EPOXY BOARD.

ELECTRICAL CHARACTERISTICS

ELECTRICAL CHARACTERISTICS (At T_A =25°C UNLESS OTHERWISE NOTED)						
CHARACTERISTIC		SYMBOL	MIN	TYP	MAX	UNITS
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =10μA	V _{(BR)DSS}	60	–	–	V
Zero Gate Voltage Drain	V _{DS} =60V, V _{GS} =0V, T _J =25°C	I _{DSS}	–	–	1.0	μA
	V _{DS} =60V, V _{GS} =0V, T _J =125°C				500	
Gate-Body Leakage, Forward (V _{DS} =0, V _{GS} =20V)		I _{GSSF}	–	–	+100	nA
Gate-Body Leakage, Reverse (V _{DS} =0, V _{GS} =-20V)		I _{GSSR}	–	–	-100	nA
ON CHARACTERISTICS (NOTE 1)						
Gate Threshold Voltage(V _{DS} = V _{GS} , I _D =250μA)		V _{GS(th)}	1.0	1.6	2.0	V
Drain-Source On- Resistance	V _{GS} =10V, I _D =500mA	r _{DS(on)}	1.4	–	7.5	Ω
	V _{GS} =5.0V, I _D =50mA		1.8	–	7.5	
On-State Drain Current(V _{GS} =10V, V _{DS} ≥ 2V _{DS(on)})		I _{D(on)}	500	–	–	mA
Static Drain-Source On-State Voltage	V _{GS} =10V, I _D =500mA	V _{DS(on)}	–	–	3.75	V
	V _{GS} =5.0V, I _D =50mA		–	–	0.375	
Forward Transconductance(V _{DS} ≥ 2V _{DS(on)} , I _D =200mA)		g _{FS}	80	–	–	mmhos
DYNAMIC CHARACTERISTICS						
Input Capacitance	V _{DS} =25V, V _{GS} =0V, f=1.0MHz	C _{ISS}	–	17	50	pF
Output Capacitance		C _{OSS}	–	10	25	pF
Reverse Transfer Capacitance		C _{RSS}	–	2.5	5	pF
Turn-On Time	V _{DD} =25V, R _L =50Ω, I _D =500mA	t _{d(ON)}	–	7	20	ns
Turn-Off Time	V _{GEN} =10V, R _G =25Ω	t _{d(OFF)}	–	11	40	ns
BODY-DRAIN DIODE RATINGS						
Diode Forward On-Voltage	I _S =115mA, V _{GS} =0V	V _{SD}	–	–	-1.5	V
Source Current Continuous (Body Diode)		I _S	–	–	-115	mA
Source Current Pulsed		I _{SM}	–	–	-800	mA

NOTE: 1. Pulse Test: Pulse Width <300 us, Duty Cycle <2.0%.

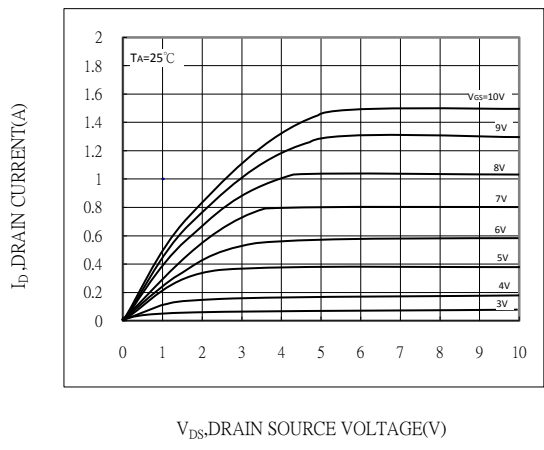


Fig.1-ON-REGION CHARACTERISTICS

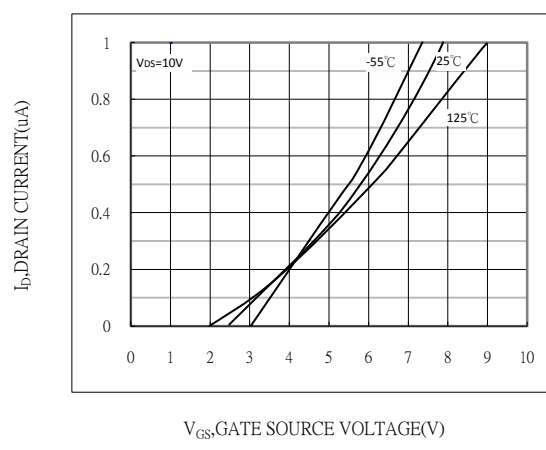


Fig.2-ON-RESISTANCE VS DRAIN CURRENT

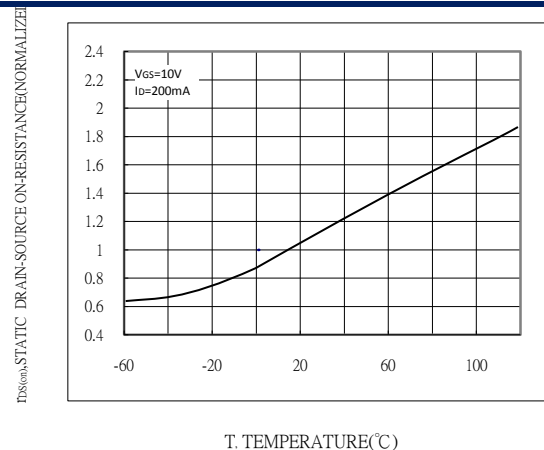


Fig.3- TEMPERATURE VS DRAIN-SOURCE ON-RESISTANCE

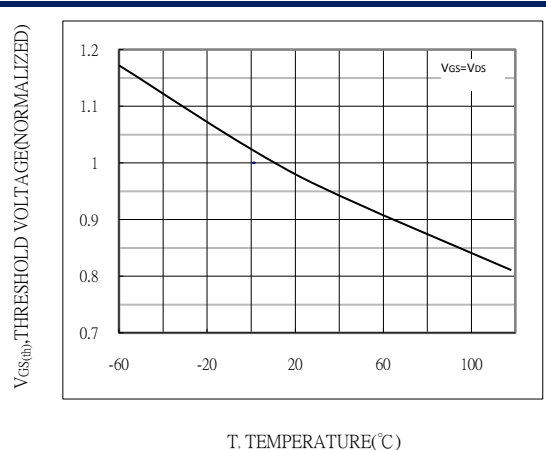


Fig.4-TEMPERATURE VS GATE THRESHOLD VOLTAGE