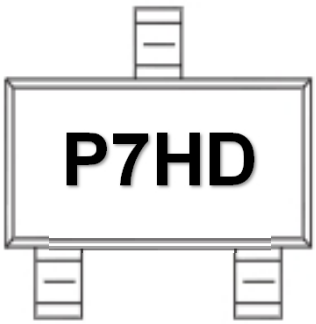
P-Channel 40-V(D-S) MOSFET

V(BR)DSS	RDS(on)MAX	ID
- 40 V	45mΩ @ - 10V	- 4.4A
	65mΩ @ - 4.5V	

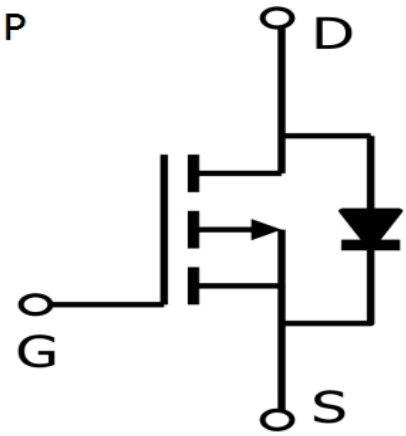
FEATURE
- TrenchFET Power MOSFET
- Low RDS(ON)
- Surface Mount Package

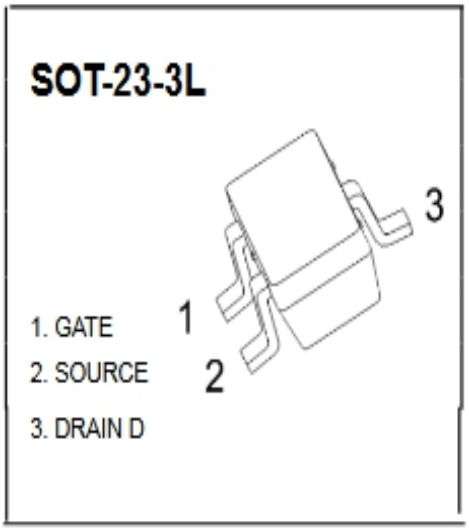
APPLICATION
- ※ Load Switch for Portable Devices
- ※ DC/DC Converter
- ※ Battery Switch

MARKING



Equivalent Circuit





Maximum ratings (Ta=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	VDS	-40	V
Gate-Source Voltage	VGS	±20	
Continuous Drain Current	ID	-4.4	A
Pulsed Diode Curren	IDM	-20	
Continuous Source-Drain Current(Diode Conduction)	IS	-2.1	
Power Dissipation	PD	2.5	W
Thermal Resistance from Junction to Ambient (t≤5s)	RθJA	166	℃/W
Operating Junction	TJ	150	℃
Storage Temperature	TSTG	-55~+150	℃

MOSFET ELECTRICAL CHARACTERISTICS

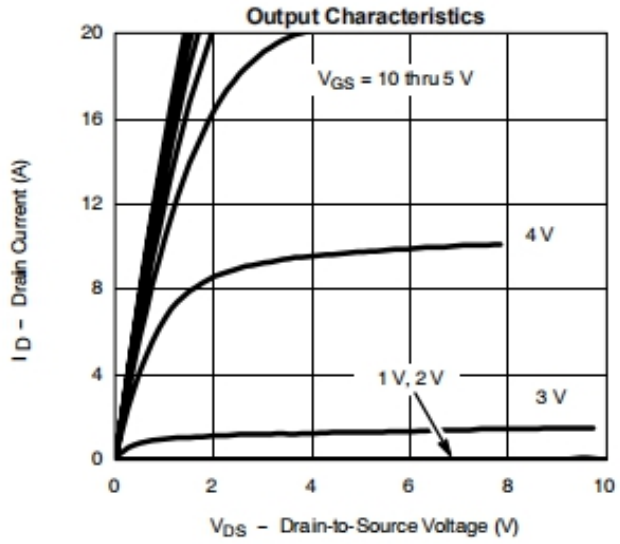
Static Electrical Characteristics (Ta = 25 ℃ Unless Otherwise Noted)

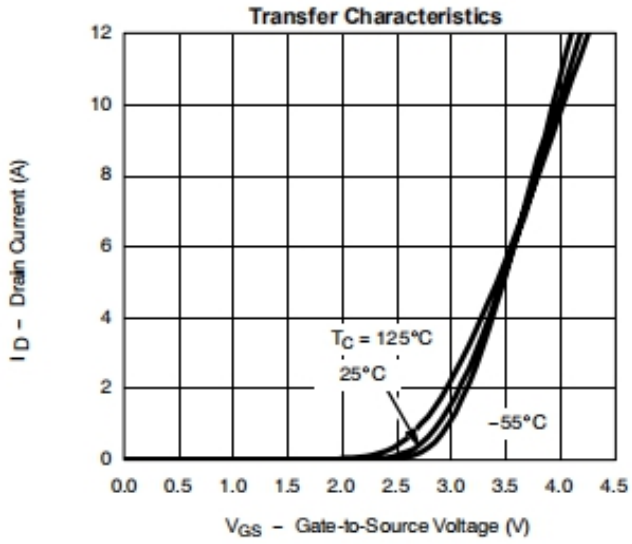
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Drain-source breakdown voltage	**V(BR)DSS**	VGS = 0V, ID = -250μA	**-40**			**V**
Gate-source threshold voltage	**VGS(th)**	VDS =VGS, ID = -250μA	**-1**		**-3**	**V**
Gate-source leakage	**IGSS**	VDS =0V, VGS = ±20V			**±100**	**nA**
Zero gate voltage drain current	**IDSS**	VDS = -40V, VGS =0V			**-1**	**μA**
Drain-source on-state resistancea	**RDS(on)**	VGS = -10V, ID = -3A		**40**	**45**	**mΩ**
		VGS = -4.5V, ID = -2.5A		**56**	**65**	**mΩ**
Forward transconductancea	**gfs**	VDS = -15V, ID = -3.2A		**10**		**S**
Diode forward voltage	**VSD**	IS= -1.25A, VGS=0V		**-0.8**	**-1.28**	**V**
Dynamic						
Input capacitance	**Ciss**	VDS = -20V, VGS =0V, f=1MHz		**595**		**pF**
Output capacitance	**Coss**			**85**		**pF**
Reverse transfer capacitanceb	**Crss**			**65**		**pF**
Total gate charge	**Qg**	VDS = -20V, VGS = -10V, ID = -3.1A		**13.6**	**21**	**nC**
Gate-source charge	**Qgs**			**2.5**		**nC**
Gate-drain charge	**Qgd**			**3.3**		**nC**
Gate resistance	**Rg**	f=1MHz		**4.5**		**Ω**
Switchingb						
Turn-on delay time	**td(on)**	VDS=-20V RL=8Ω, ID = -2.5A, VGEN=-4.5 V,Rg=1Ω		**40**	**60**	**ns**
Rise time	**tr**			**27**	**41**	**ns**
Turn-off delay time	**td(off)**			**18**	**27**	**ns**
Fall time	**tf**			**10**	**20**	**ns**
Drain-source body diode characteristics						
Continuous Source-Drain Diode Current	**IS**	Tc=25℃			**-1.28**	**A**
Pulsed Diode forward Curren	**ISM**				**-20**	**A**

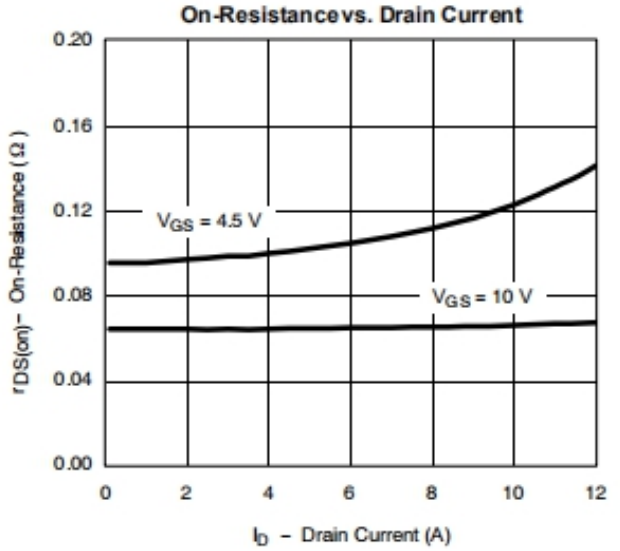
Note :

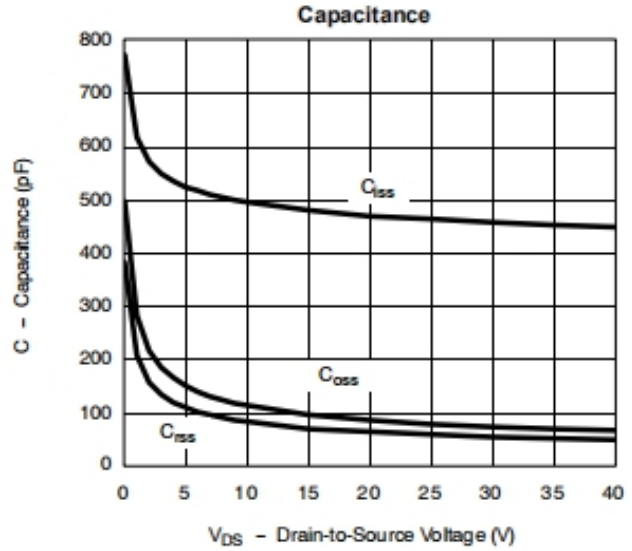
1. Repetitive Rating : Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, t < 5 sec.
3. Pulse Test : Pulse Width≤300μs, Duty Cycle ≤ 2%.
4. Guaranteed by design, not subject to production testing.

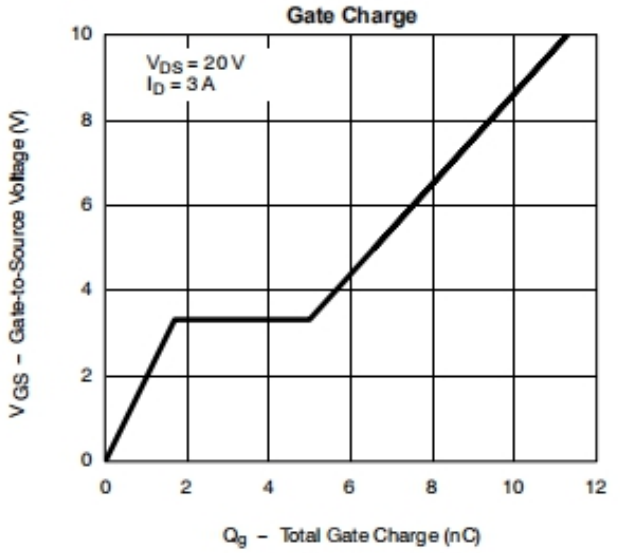
TYPICAL ELEC TRICAL AND THERMAL CHARACTERISTICS

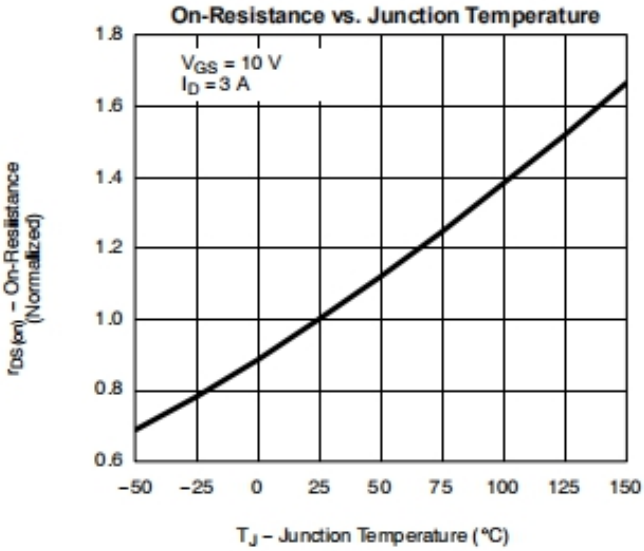












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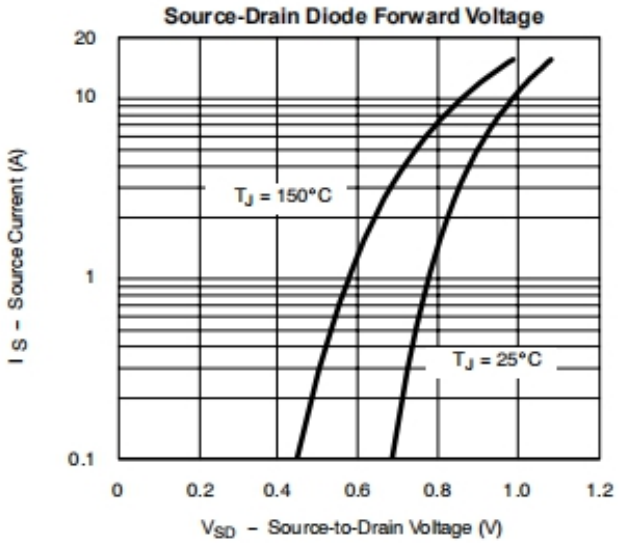

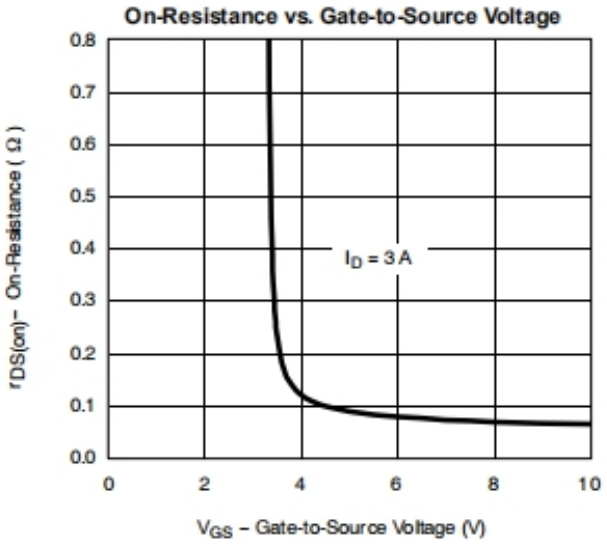

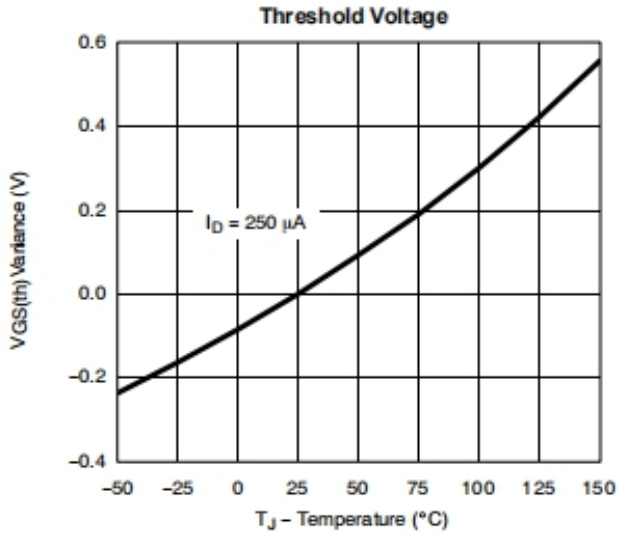

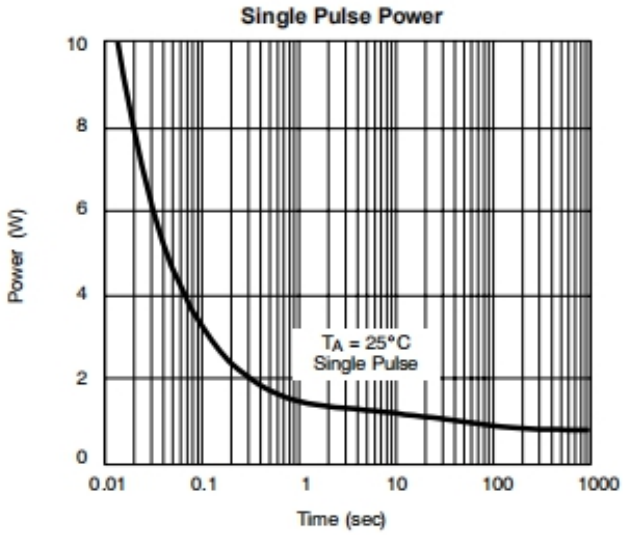

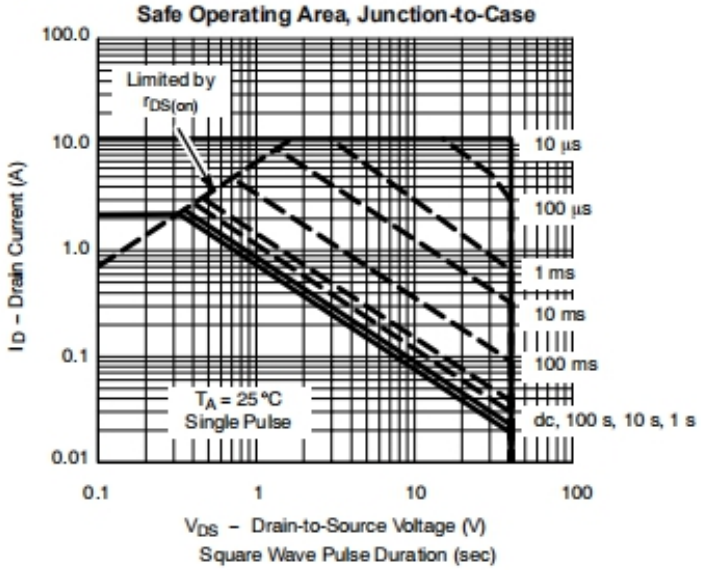

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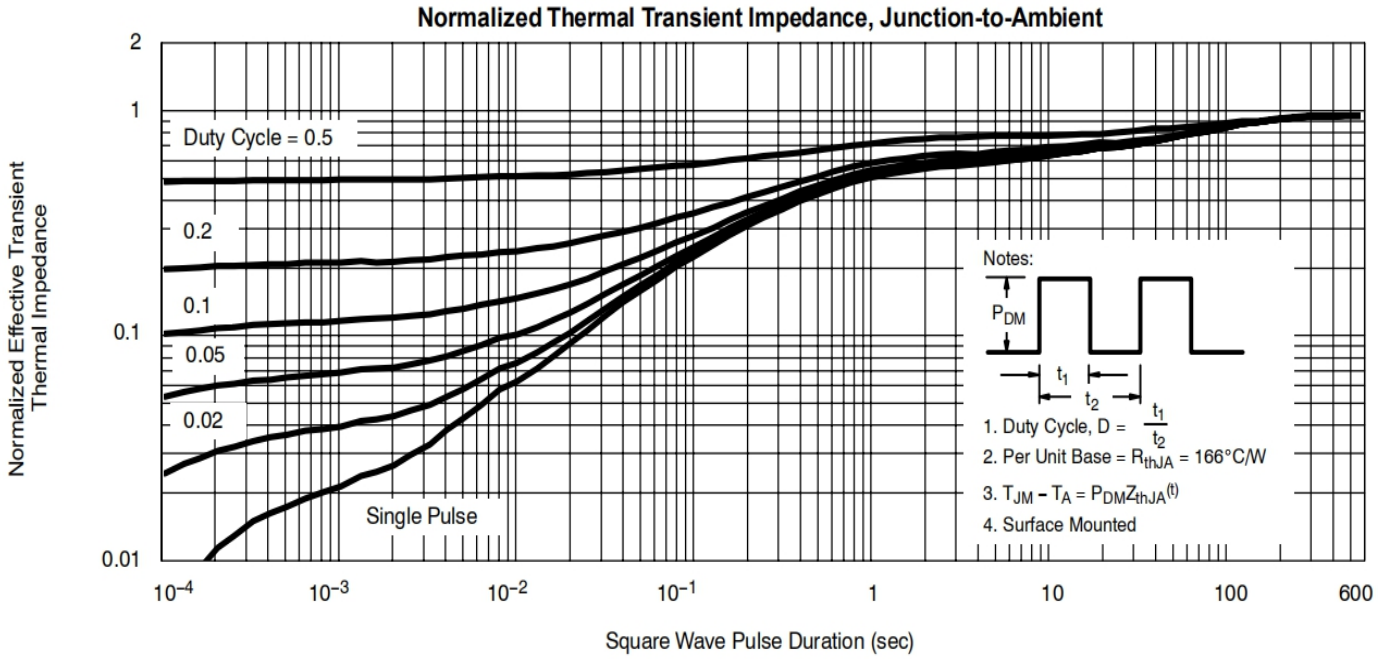
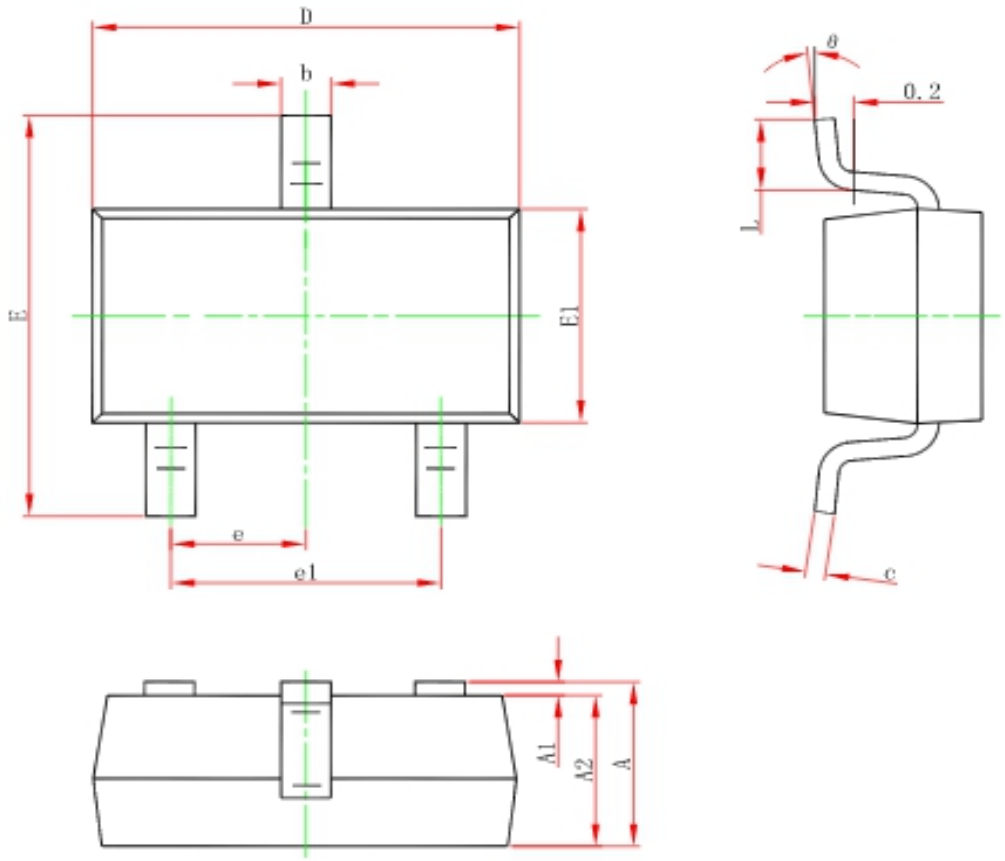


SOT-23-3L PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°