Features

- High Density Cell Design for Low $R_{DS(on)}$
- Trench Power HV MOSFET Technology
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

N-CHANNEL MOSFET

Maximum Ratings

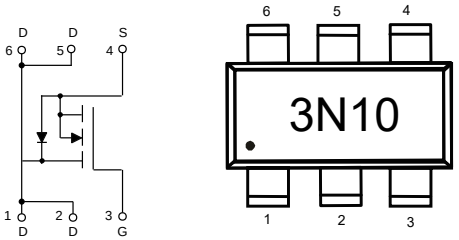
- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 83°C/W Junction to Ambient(Note 1)
- Thermal Resistance: 36°C/W Junction to Lead

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	100	V
Gate-Source Volltage		V_{GS}	±20	V
Continuous Drain Current	T_A=25°C	I_D	3	A
	T_A=70°C		2.4	A
Pulsed Drain Current(Note 2)		I_{DM}	15	A
Total Power Dissipation		P_D	1.5	W
Single Pulsed Avalanche Energy		E_{AS}	8	mJ

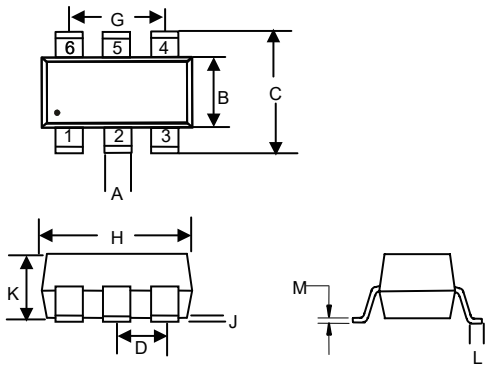
Note 1. Device Mounted on FR-4 PCB, 1inch x 0.85inch x 0.062inch.

2. Pulse Test: Pulse Width≤300μs, Duty Cycle ≤2%.

Internal Structure and Marking Code



SOT23-6L



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.012	0.020	0.30	0.50	
B	0.051	0.070	1.30	1.80	
C	0.087	0.126	2.20	3.20	
D	0.037		0.95		TYP.
G	0.074		1.90		TYP.
H	0.106	0.122	2.70	3.10	
J	0.002	0.006	0.05	0.15	
K	0.030	0.051	0.75	1.30	
L	0.012	0.024	0.30	0.60	
M	0.003	0.008	0.08	0.22	

Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=250μA	100			V
Gate-Source Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS} =±20V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=100V, V_{GS}=0V			1	μA
Gate-Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=-250μA	1	1.8	2.5	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V, I_D=3A		95	120	mΩ
		V_{GS}=4.5V, I_D=2.4A		100	140	
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_S=3A		0.8	1.2	V
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}=50V,V_{GS}=0V,f=1MHz		810		pF
Output Capacitance	C_{oss}			40		
Reverse Transfer Capacitance	C_{rss}			32		
Switching Characteristics						
Total Gate Charge	Q_g	V_{DS}=80V,V_{GS}=10V,I_D=2.5A		19.2		nC
Gate-Source Charge	Q_{gs}			3.4		
Gate-Drain Charge	Q_{gd}			6.1		
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=10V,V_{DS}=50V,R_L=6.4Ω R_{GEN}=3Ω		15		ns
Turn-On Rise Time	t_r			5		
Turn-Off Delay Time	$t_{d(off)}$			30		
Turn-Off Fall Time	t_f			5		

Curve Characteristics

Fig. 1 - Typical Output Characteristics

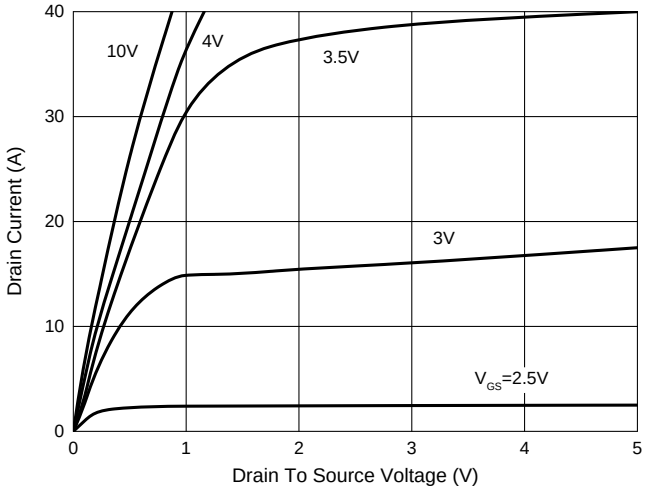


Fig. 2 - Transfer Characteristics

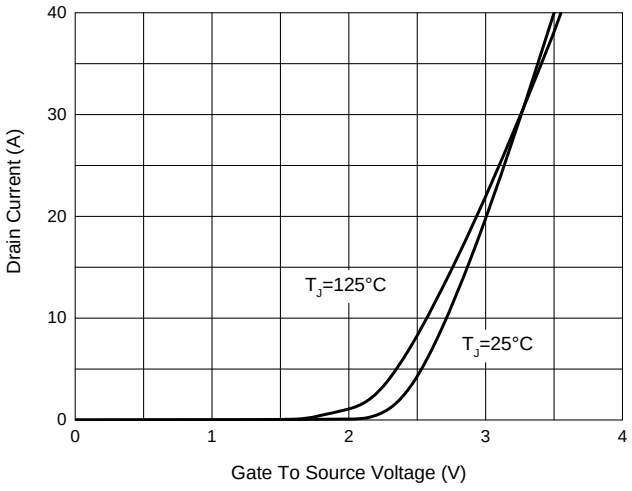


Fig. 3 - Capacitance Characteristics

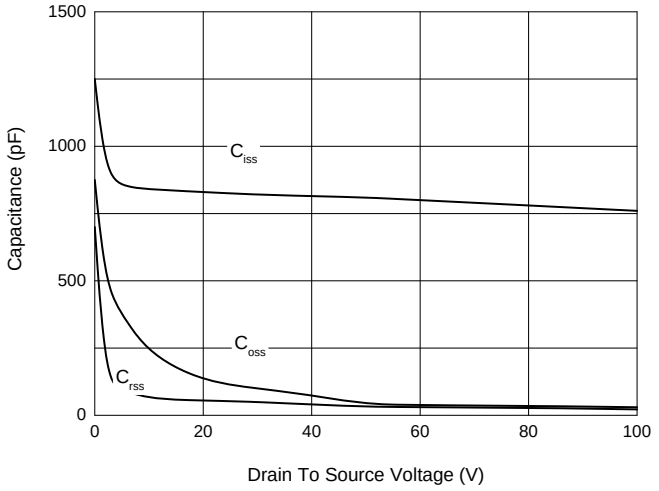


Fig. 4 - Total Gate Charge Characteristics

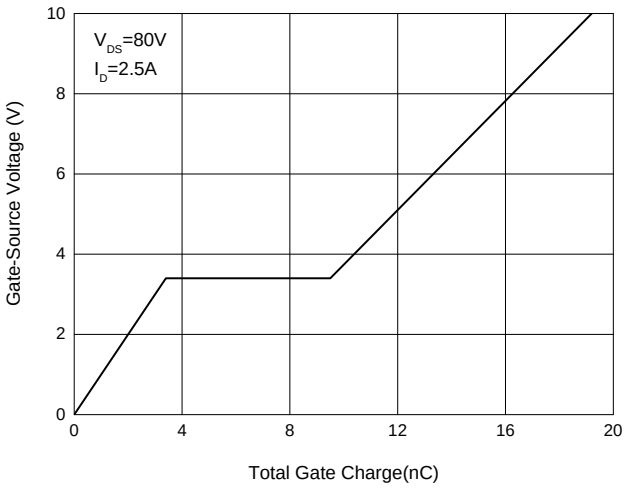


Fig. 5 - $R_{DS(ON)}$—I_D

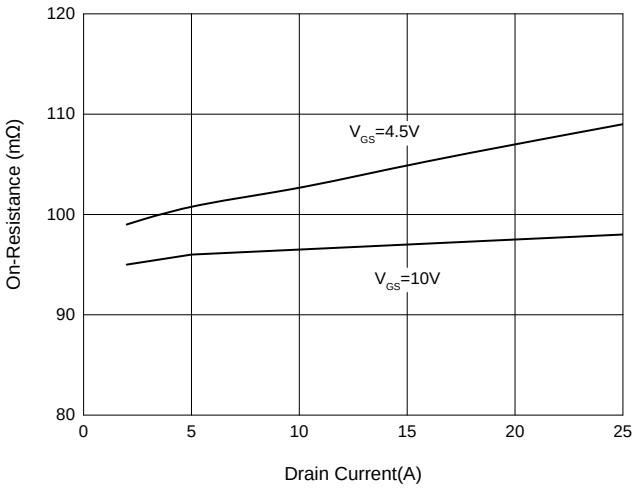
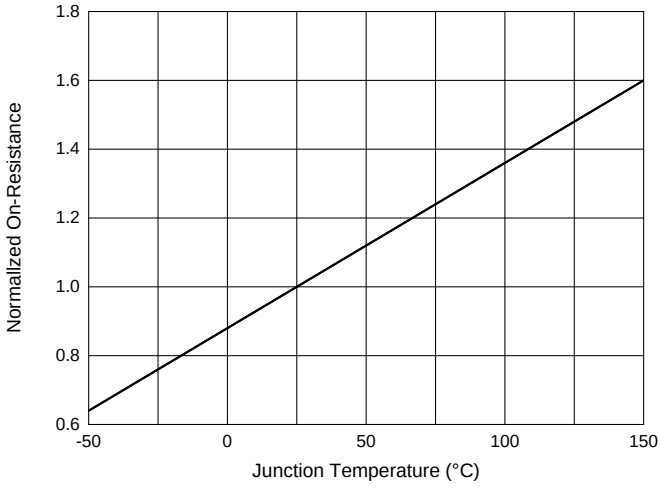


Fig. 6 - Normallzed On-Resistance Characteristics



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

Note : Adding "-HF" Suffix for Halogen Free, eg. Part Number-TP-HF

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