

Features

- High Power and Current Handling Capability
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 3
- Halogen Free. "Green" Device
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

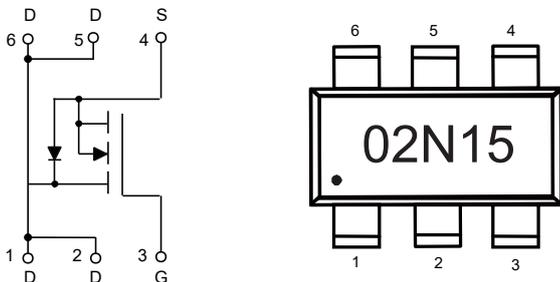
- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 100°C/W Junction to Ambient ⁽¹⁾

Parameter	Symbol	Rating	Unit	
Drain-Source Voltage	V _{DS}	150	V	
Gate-Source Voltage	V _{GS}	±20	V	
Continuous Drain Current	I _D	T _A =25°C	2	A
		T _A =100°C	1.3	A
Pulsed Drain Current ⁽²⁾	I _{DM}	6	A	
Total Power Dissipation	P _D	1.25	W	

Note:

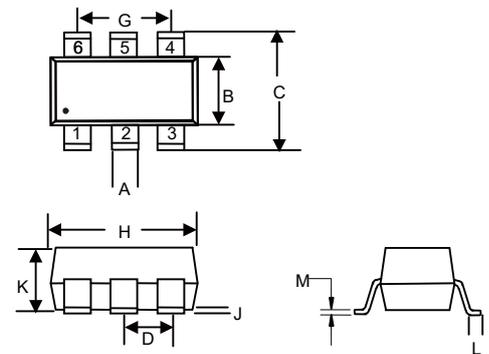
1. Device Mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch.
2. Pulse Test: Pulse Width ≤ 300µs, Duty Cycle ≤ 2%.

Internal Structure and Marking Code



**N-CHANNEL
MOSFET**

SOT23-6L



DIM	MIN DIMENSIONS				NOTE
	INCHES		MM		
		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	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	150			V
Gate-Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=150V, V_{GS}=0V$			1	μA
Gate-Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1.3	1.8	2.5	V
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=2A$		240	290	m Ω
		$V_{GS}=8V, I_D=1.5A$		250	300	m Ω
Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_S=1A$			1.3	V
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=25V, V_{GS}=0V, f=1MHz$		540		pF
Output Capacitance	C_{oss}			36		
Reverse Transfer Capacitance	C_{rss}			29		
Switching Characteristics						
Total Gate Charge	Q_g	$V_{DS}=75V, V_{GS}=10V, I_D=2A$		15.9		nC
Gate-Source Charge	Q_{gs}			2.79		
Gate-Drain Charge	Q_{gd}			3.8		
Reverse Recovery Time	Q_{rr}	$I_F=2A, di/dt=100A/\mu s$		48		ns
Reverse Recovery Charge	t_{rr}			46		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V, V_{DS}=75V, I_D=2A$ $R_g=4.5\Omega$		6		ns
Turn-On Rise Time	t_r			19.4		
Turn-Off Delay Time	$t_{d(off)}$			20		
Turn-Off Fall Time	t_f			28		

Curve Characteristics

Fig. 1 - Typical Output Characteristics

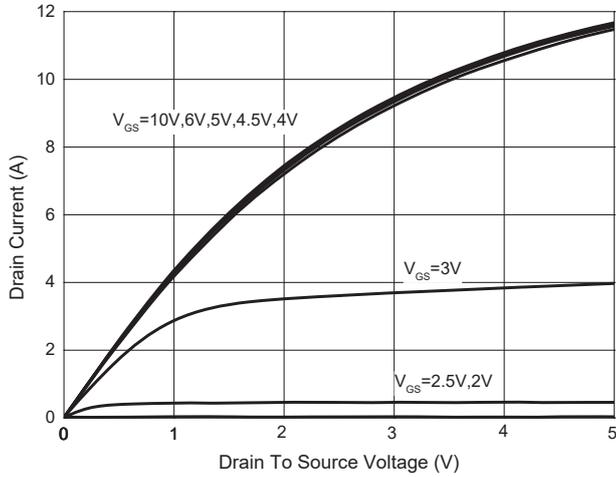


Fig. 2 - Transfer Characteristics

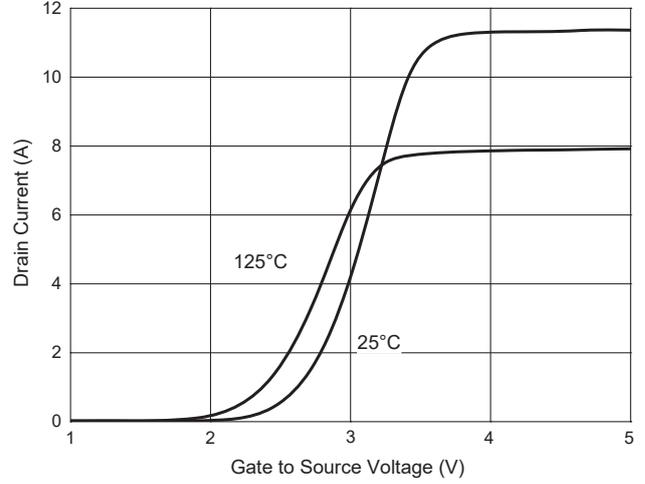


Fig. 3 - $R_{DS(ON)} - V_{GS}$

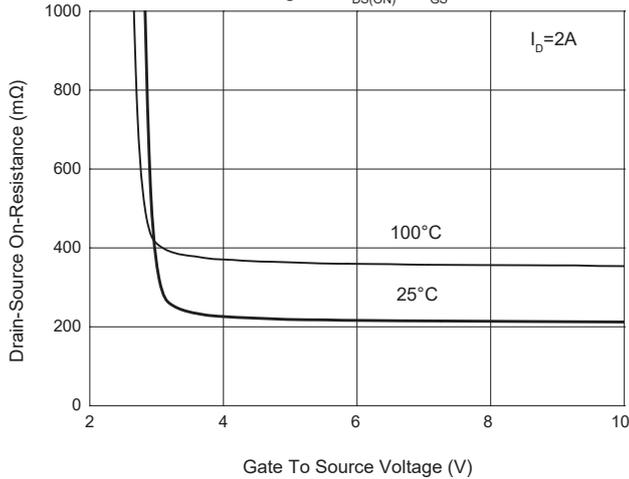


Fig. 4 - $I_S - V_{SD}$

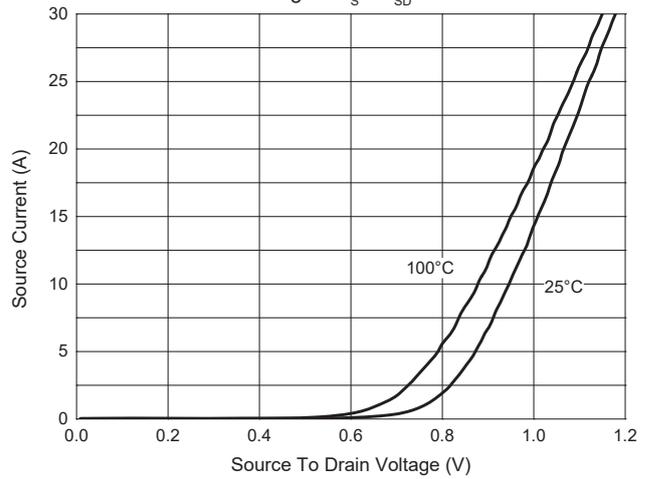


Fig. 5 - $R_{DS(ON)} - I_D$

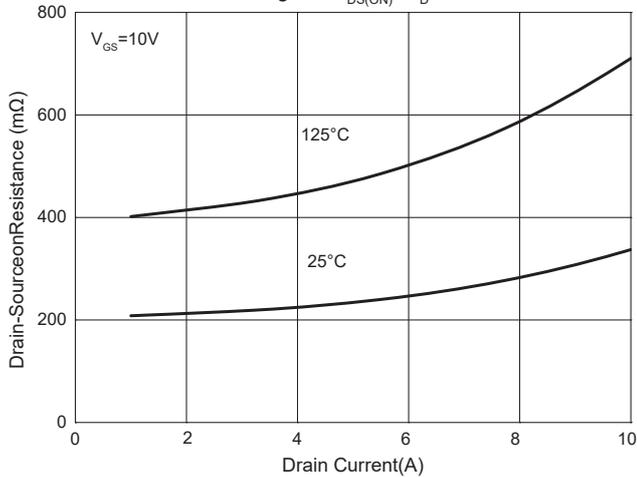
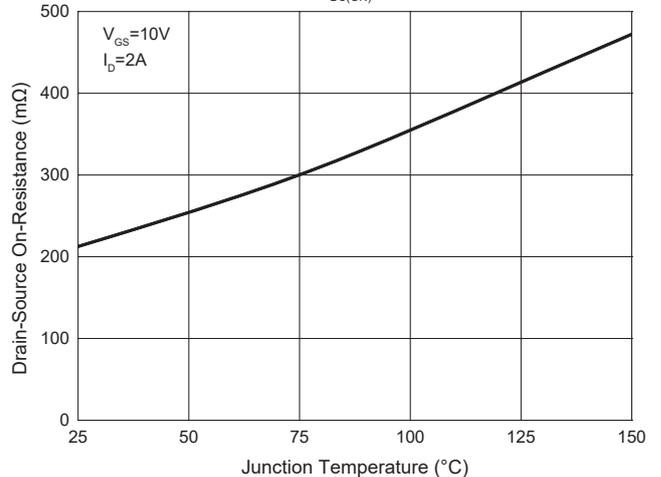


Fig. 6 - $R_{DS(ON)}$



Curve Characteristics

Fig. 7 - Threshold Voltage

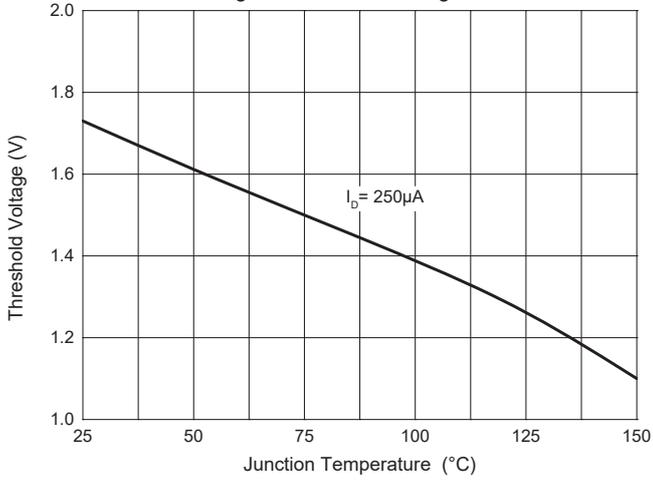


Fig. 8 - Capacitance Characteristics

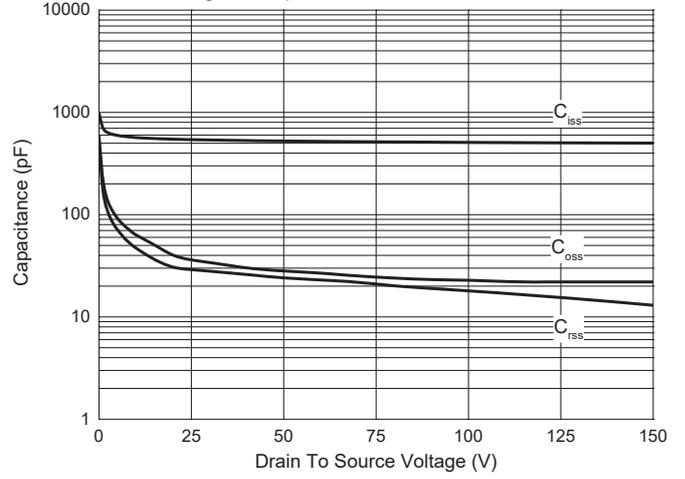
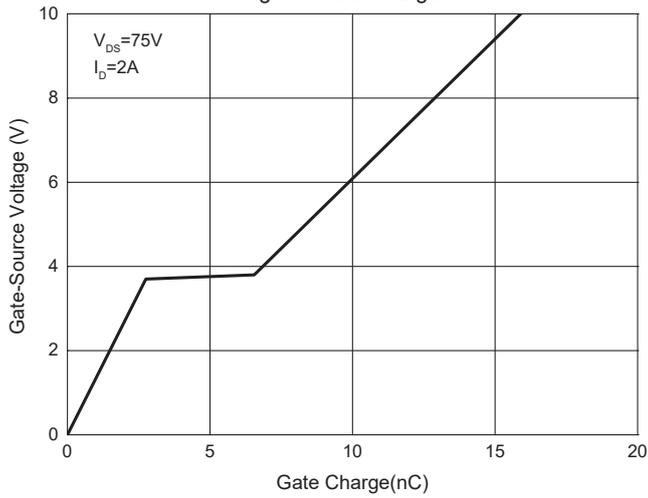


Fig. 9 - Gate Charge



Ordering Information

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

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