





## N-Channel MOSFET

### Features

- $V_{DS} = 100V$  ,  $I_D = 5A$
- $R_{DS(ON)} < 140\ m\Omega$  @  $V_{GS} = 10V$
- Extremely Low Switching Loss
- Excellent Stability and Uniformity
- Fast Switching and Soft Recovery

### Mechanical Data

- Case: SOT23-3L Package
  - Case Material: UL Flammability Classification Rating 94V-0
  - Halogen Free
  - Component in Accordance to RoHS
- Note: Products with logo  or  are made by HY Electronic (Cayman) Limited.

### Ordering Information

- Package :SOT23-3L
- Reel Size :7 (inches)
- Quantity Per Reel :3,000 pcs
- Quantity One Box :45,000 pcs
- Quantity One Carton :180,000 pcs

### Maximum Ratings (@TA = +25°C, unless otherwise specified.)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	100	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Diode Continuous Forward Current	$T_C=25\ ^\circ C$ $I_S$	5	A
Continuous Drain Current	$T_C=25\ ^\circ C$ $I_D$	5	A
Pulsed Drain Current	$T_C=25\ ^\circ C$ $I_{DM}$	19.6	A
Power Dissipation	$T_C=25\ ^\circ C$ $P_D$	1.5	W
Junction Temperature	$T_J$	150	$^\circ C$
Storage Temperature Range	$T_{STG}$	- 50 to 155	$^\circ C$
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	83	$^\circ C/W$

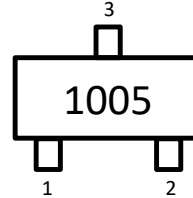
Drain Source Voltage - 100V  
Continuous Drain Current - 5A

### Package Outline



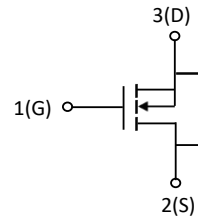
SOT23-3L Top View

### Marking Information



"1005" = Product Type Marking Code

### Device Schematic & PIN Configuration

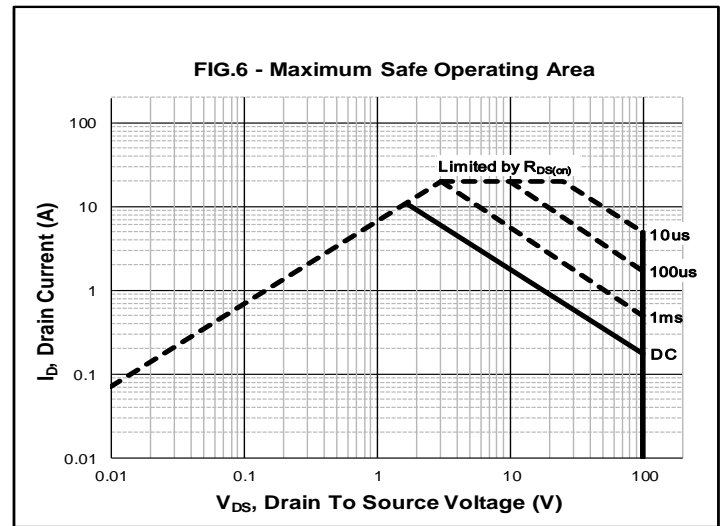
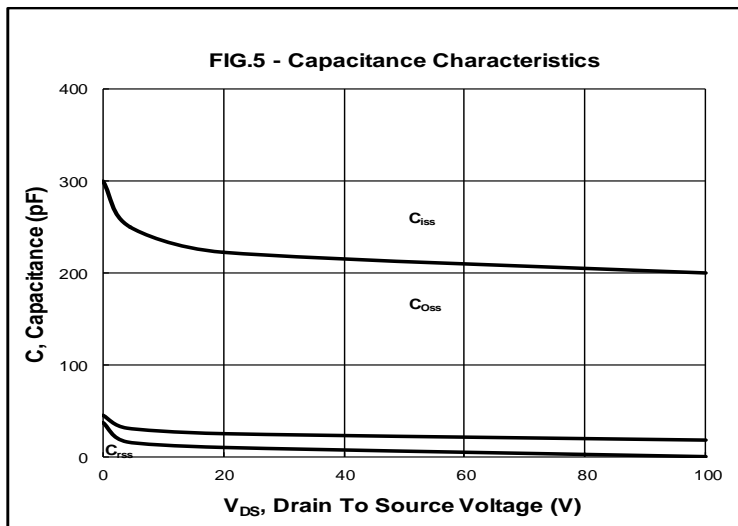
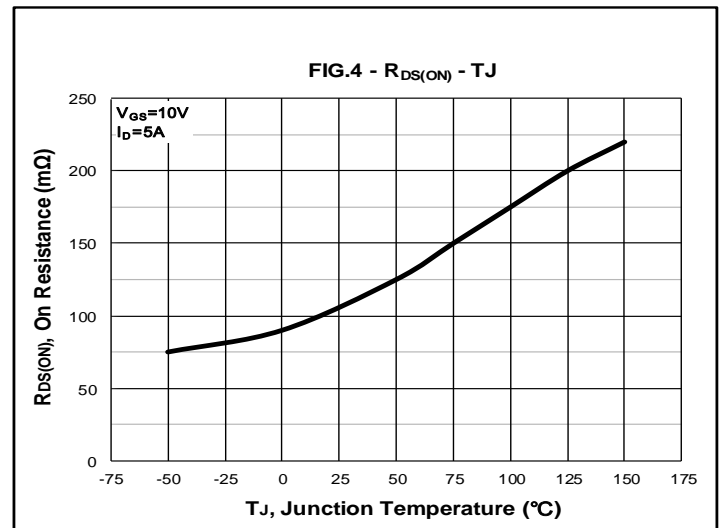
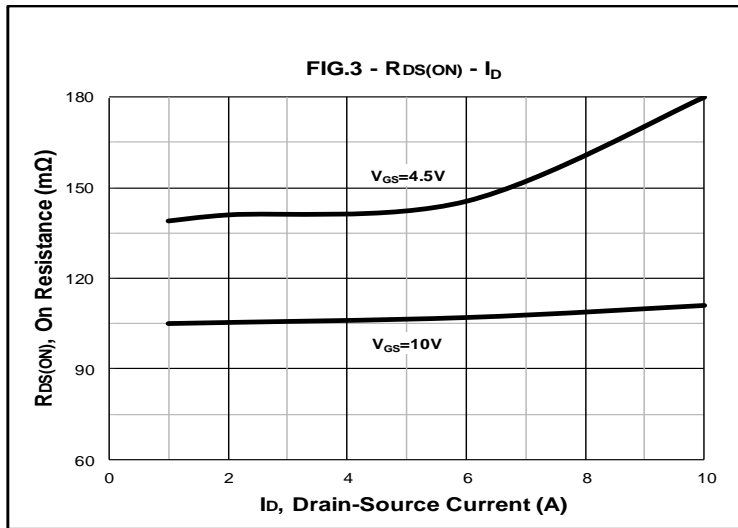
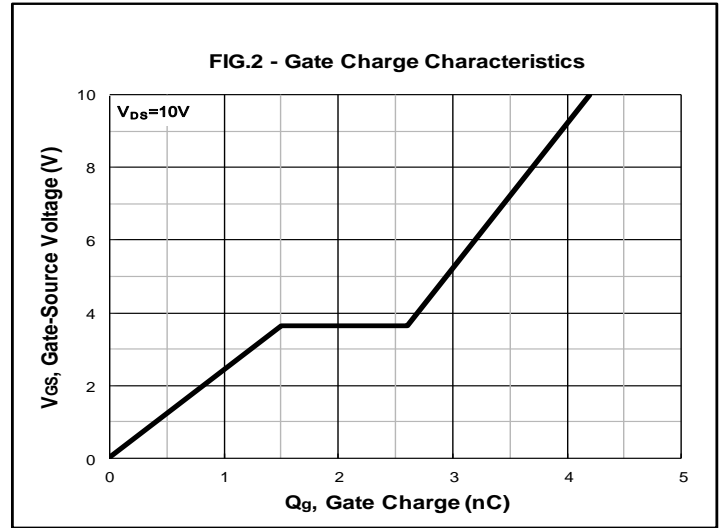
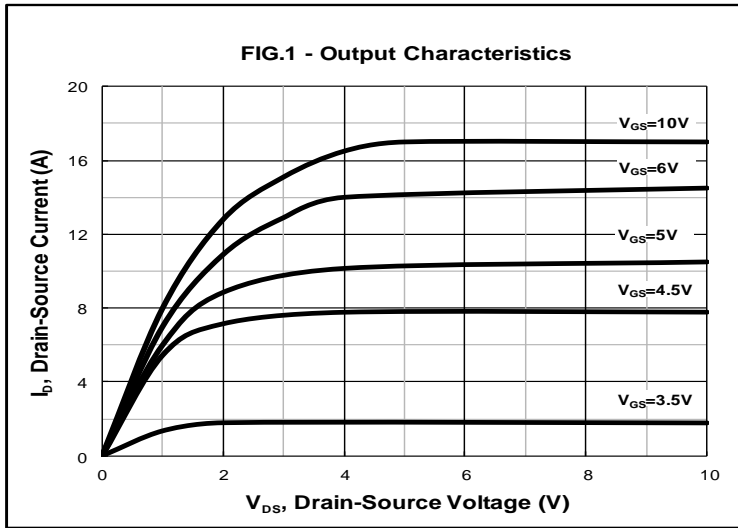


Electrical Characteristics (@T<sub>J</sub> = +25°C, unless otherwise specified.)

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
<b>Static Electrical Characteristics</b>						
Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V, I <sub>D</sub> =250μA	BV <sub>DSS</sub>	100	-	-	V
Gate-Body Leakage Current	V <sub>GS</sub> =±20V, V <sub>DS</sub> =0V	I <sub>GSS</sub>	-	-	±100	nA
Zero Gate Voltage Drain Current	V <sub>DS</sub> =100V, V <sub>GS</sub> =0V	I <sub>DSS</sub>	-	-	1	μA
Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA	V <sub>GS(th)</sub>	1	1.8	2.5	V
Drain-Source On-State Resistance	V <sub>GS</sub> =10V, I <sub>D</sub> =3A	R <sub>DS(on)</sub>	-	105	140	mΩ
	V <sub>GS</sub> =4.5V, I <sub>D</sub> =2A		-	140	170	
<b>Dynamic Electrical Characteristics</b>						
Input Capacitance	V <sub>DS</sub> =50V, V <sub>GS</sub> =0V, F=1MHz	C <sub>iss</sub>	-	212	-	pF
Output Capacitance		C <sub>oss</sub>	-	27.5	-	
Reverse Transfer Capacitance		C <sub>rss</sub>	-	1.6	-	
<b>Switching Characteristics</b>						
Total Gate Charge	V <sub>DS</sub> =50V, V <sub>GS</sub> =10V, I <sub>D</sub> =3A	Q <sub>g</sub>	-	3.3	-	nC
Gate Source Charge		Q <sub>gs</sub>	-	0.35	-	
Gate Drain Charge		Q <sub>gd</sub>	-	0.87	-	
Turn-On Delay Time	V <sub>DS</sub> =50V, V <sub>GS</sub> =10V, I <sub>D</sub> =3A, R <sub>G</sub> =2Ω	t <sub>d(on)</sub>	-	13.2	-	ns
Turn-On Rise Time		t <sub>r</sub>	-	2.2	-	
Turn-Off Delay Time		t <sub>d(off)</sub>	-	11	-	
Turn-Off Fall Time		t <sub>f</sub>	-	1.1	-	
<b>Drain-Source Diode Characteristics</b>						
Forward on Voltage	I <sub>S</sub> =3A, T <sub>J</sub> =25°C	V <sub>SD</sub>	-	-	1.2	V

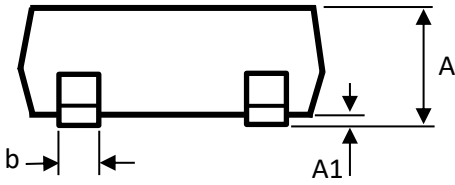
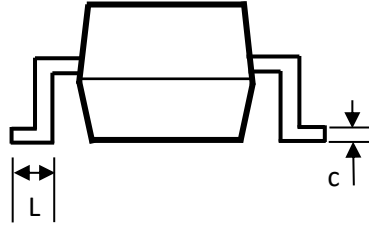
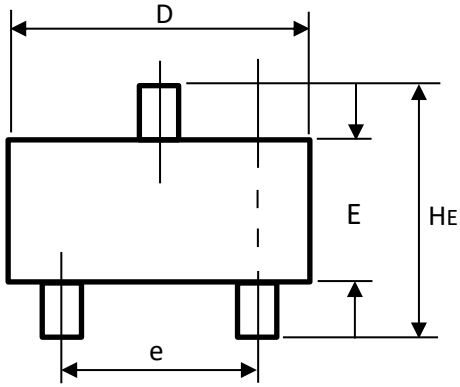


## Rating and Characteristic Curves





## Package Outline Dimensions



SOT23-3L Package		
Dim	Min	Max
A	1.05	1.25
A1	0.00	0.10
b	0.30	0.50
c	0.10	0.20
D	2.82	3.02
E	1.50	1.70
e	1.80	2.00
L	0.30	0.60
HE	2.65	2.95
All Dimensions in mm		



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