

N-Channel Small Signal MOSFET

60V
SOT23

Features

- Voltage Controlled Small Signal Switch
- High Saturation Current Capability
- High Density Cell Design for Low On-Resistance
- Load Switch for Portable Devices

Mechanical Data

- Case: SOT23 Package
- Case Material: "Green" Molding Compound
UL Flammability Classification Rating 94V-0
- Halogen Free

Note: Products with logo  or  are made by HY Electronic (Cayman) Limited.

Ordering Information

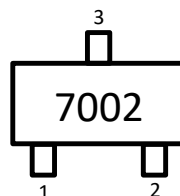
- Package :SOT23
- Reel Size :7 (inches)
- Quantity Per Reel :3,000 pcs
- Quantity One Box :45,000 pcs
- Quantity One Carton :180,000 pcs

Package Outline



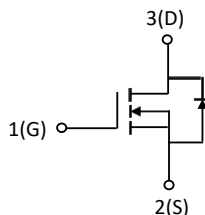
SOT23 Top View

Marking Information



"7002" = Product Type Marking Code

Device Schematic & PIN Configuration



Pin Assignment		
1	G	Gate
2	S	Source
3	D	Drain

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	115	mA
Power Dissipation	P_D	225	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{STG}	-50 to +150	°C
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	556	°C/W

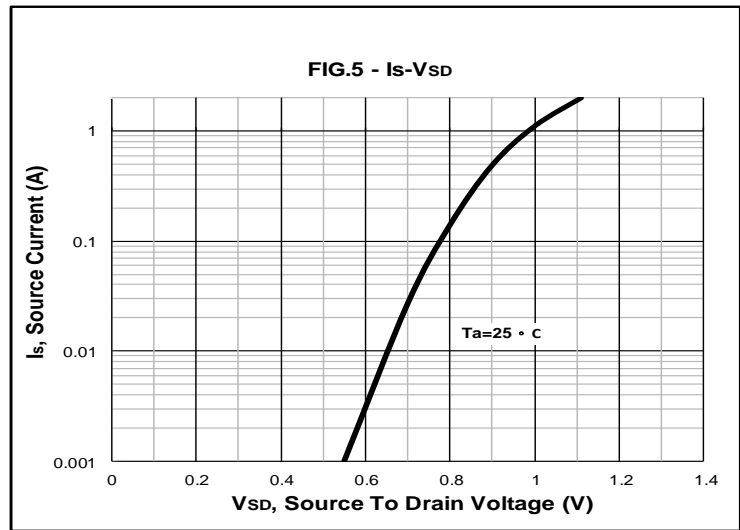
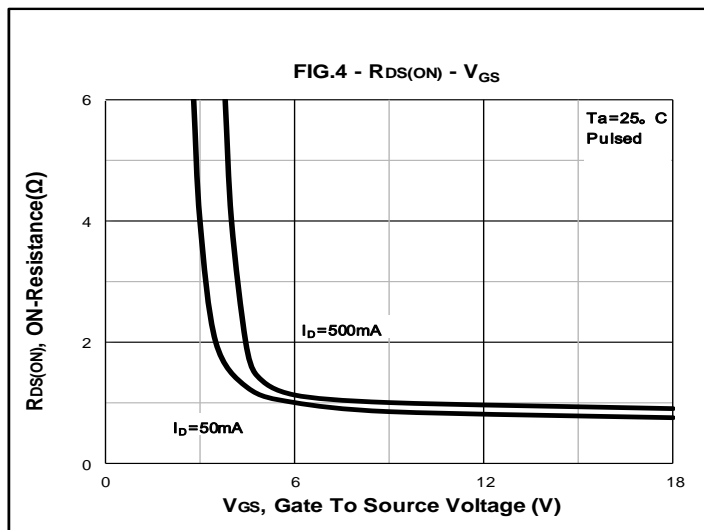
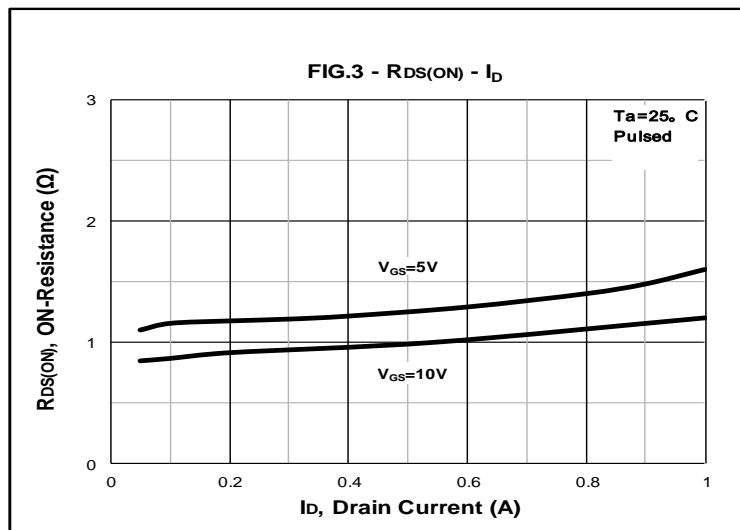
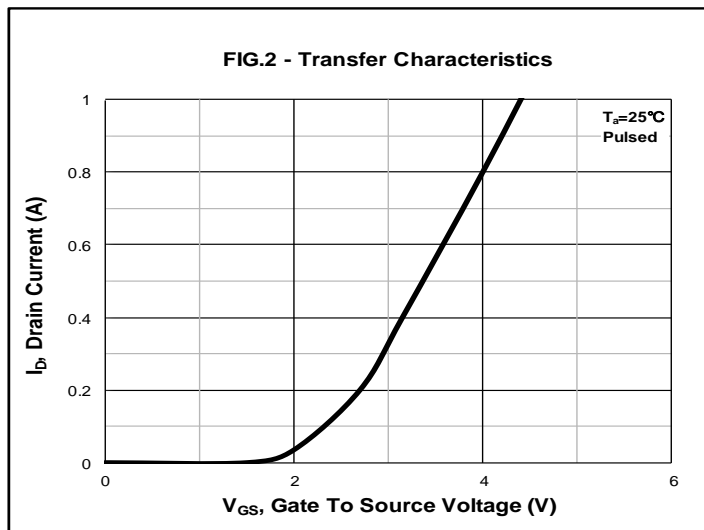
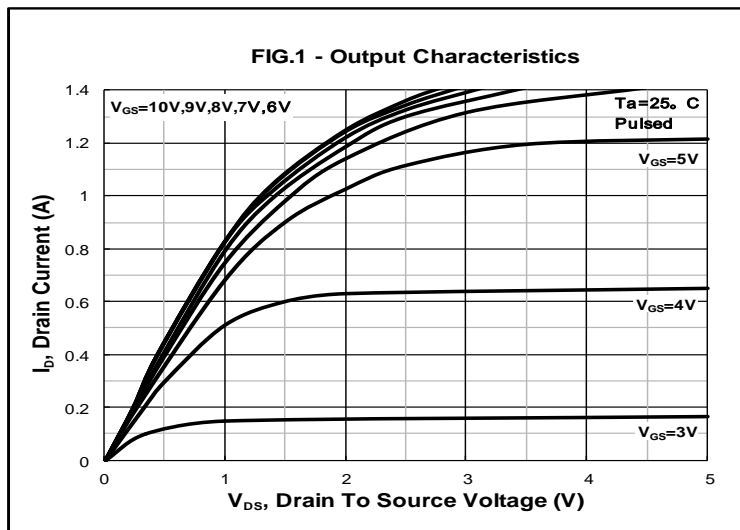
Electrical Characteristics(@TA = +25°C, unless otherwise specified.)

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	V_{DSS}	60	-	-	V
Gate-Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	$V_{th(GS)}$	1	-	2.5	V
Gate-Body Leakage	$V_{DS}=0V, V_{GS}=\pm 20V$	I_{GSS}	-	-	± 100	nA
Zero Gate Voltage Drain Current	$V_{DS}=60V, V_{GS}=0V$	I_{DSS}	-	-	80	nA
On-State Drain Current	$V_{GS}=10V, V_{DS}=7V$	$I_{D(ON)}$	500	-	-	mA
Drain-Source On-Resistance	$V_{GS}=10V, I_D=500mA$	$R_{DS(ON)}$	-	-	5	Ω
	$V_{GS}=5V, I_D=50mA$		-	-	7	
Forward Trans Conductance	$V_{DS}=10V, I_D=200mA$	g_{fs}	80	-	-	ms
Drain-Source On-Voltage	$V_{GS}=10V, I_D=500mA$	$V_{DS(ON)}$	-	-	3.75	V
	$V_{GS}=5V, I_D=50mA$		-	-	0.375	
Diode Forward Voltage	$I_S=115mA, V_{GS}=0V$	V_{SD}	0.55	-	1.20	V
Input Capacitance (*)	$V_{DS}=25V, V_{GS}=0V, F=1MHz$	C_{iss}	-	-	50	pF
Output Capacitance (*)		C_{oss}	-	-	25	
Reverse Transfer Capacitance (*)		C_{rss}	-	-	5	
Turn-on Time (*)	$V_{DD}=25V, R_L=50\Omega, I_D=500mA, V_{GEN}=10V, R_G=25\Omega$	$t_{d(ON)}$	-	-	20	ns
Turn-off Time (*)		$t_{d(OFF)}$	-	-	40	

Notes: These parameters have on way to verify.

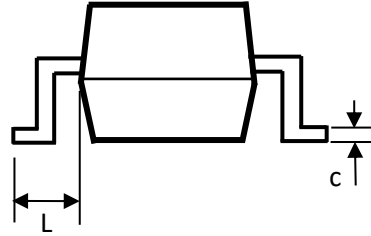
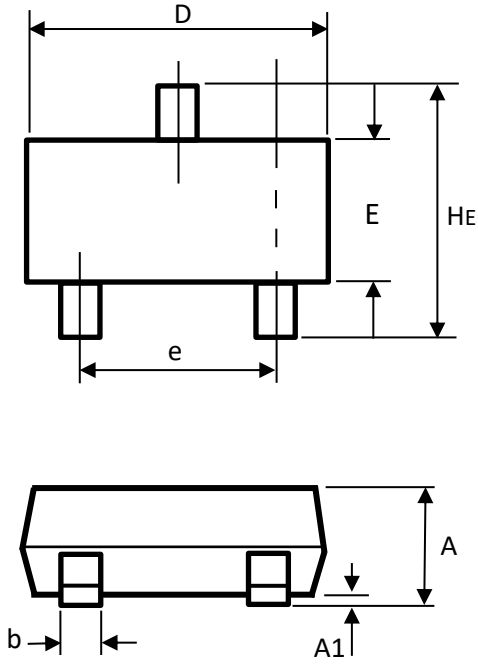


Rating and Characteristic Curves



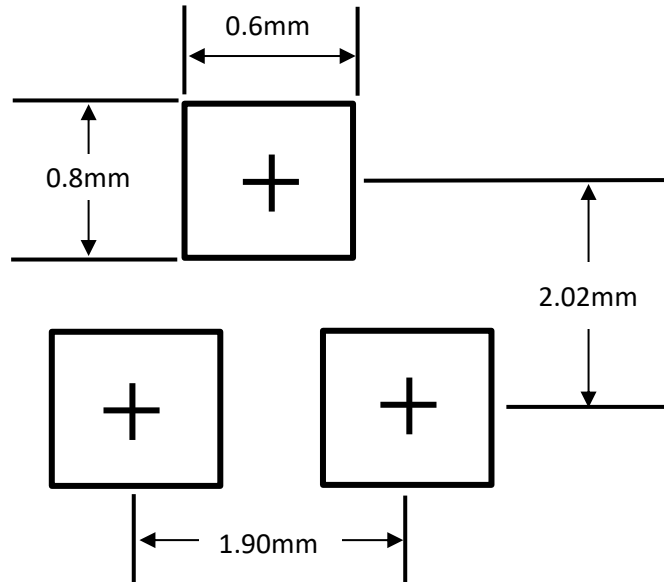


Package Outline Dimensions



SOT23 Package		
Dim	Min	Max
A	0.90	1.15
A1	0.00	0.10
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	1.20	1.40
e	1.80	2.00
L	0.55 REF	
HE	2.25	2.55
All Dimensions in mm		

Suggested Soldering Pad Layout



Note:

- 1. The pad layout is for reference purposes only.
- 2. General tolerance $\pm 0.05\text{mm}$



Disclaimer

All specifications and data are subject to be changed without notice to improve reliability function or design or other reasons.

HY makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, HY disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on HY's knowledge of typical requirements that are often placed on HY products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify HY's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, HY products are not designed for use in medical, life-saving, or life-sustaining applications or for any other applications in which the failure of the HY product could result in personal injury or death. Customers using or selling HY products not expressly indicated for use in such applications do so at their own risk. Please contact authorized HY personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of HY. Product names and markings noted herein may be trademarks of their respective owners.