

Description

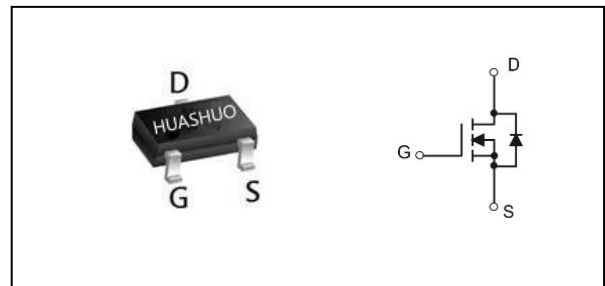
The HSST6072 is the high cell density trenched N-ch MOSFETs, which provides excellent R_{DS(ON)} and efficiency for most of the small power switching and load switch applications. The HSST6072 meets the RoHS and Green Product requirement with full function reliability approved.

- Voltage controlled small signal switch
- Rugged and reliable
- High saturation current capability
- Low Threshold

Product Summary

V _{DS}	60	V
R _{DS(ON),max}	5	Ω
I _D	120	mA

SOT523 Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V _{DS}	Drain-Source Voltage	60	V
V _{GS}	Gate-Source Voltage	±20	V
I _D @T _A =25°C	Continuous Drain Current, V _{GS} @ 4.5V ₁	120	mA
I _D @T _A =70°C	Continuous Drain Current, V _{GS} @ 4.5V ₁	90	mA
P _D @T _A =25°C	Total Power Dissipation ₃	0.15	W
T _{STG}	Storage Temperature Range	-55 to 150	°C
T _J	Operating Junction Temperature Range	-55 to 150	°C

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
R _{θJA}	Thermal Resistance Junction-ambient ¹	---	830	°C/W



Electrical Characteristics (T_J=25 °C, unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
B _{VDS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250uA	60	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance ²	V _{GS} =10V, I _D =500mA	---	---	5	Ω
		V _{GS} =5V, I _D =50mA	---	---	7	
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =250uA	1	---	2.5	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =60V, V _{GS} =0V, T _J =25°C	---	---	80	nA
I _{GSS}	Gate-Source Leakage Current	V _{GS} =±20V, V _{DS} =0V	---	---	±80	nA
g _{fs}	Forward Transconductance	V _{DS} =10V, I _D =200mA	---	80	---	mS
T _{d(on)}	Turn-On Delay Time	V _{DD} =25V, V _{GS} =10V, R _L =50Ω I _D =500mA	---	20	---	ns
T _{d(off)}	Turn-Off Delay Time					
C _{iss}	Input Capacitance	V _{DS} =25V, V _{GS} =0V, f=1MHz	---	50	---	pF
C _{oss}	Output Capacitance					
C _{rss}	Reverse Transfer Capacitance					

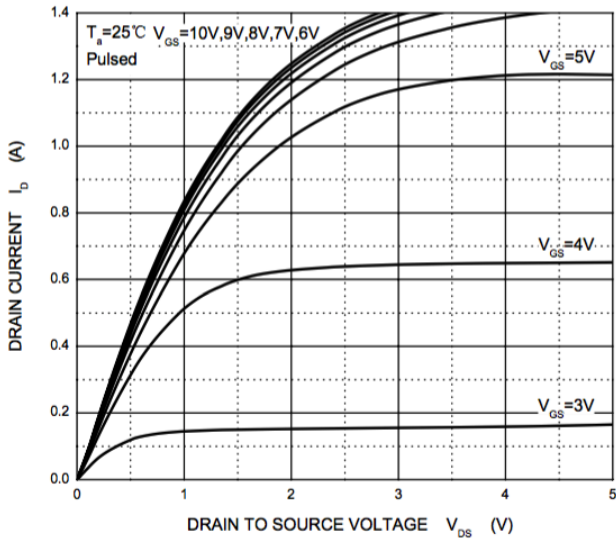
Note :

- 1.The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper.
- 2.The data tested by pulsed , pulse width ≤ 300us , duty cycle ≤ 2%
- 3.The power dissipation is limited by 150°C junction temperature
- 4.The data is theoretically the same as I_D and I_{DM} , in real applications , should be limited by total power dissipation.

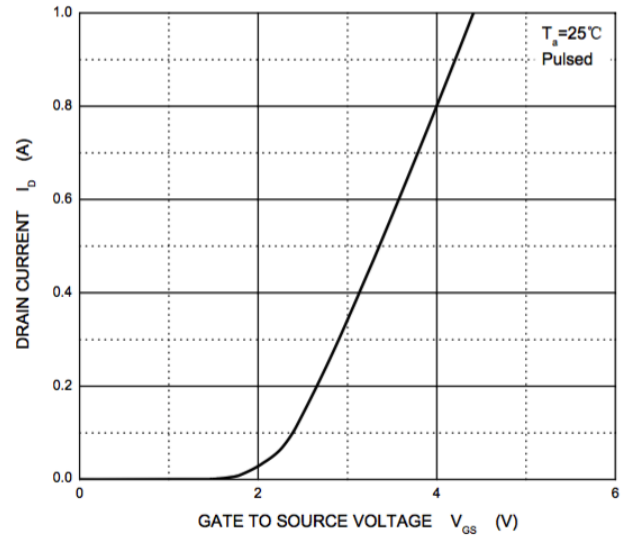


N-Ch 60V Fast Switching MOSFETs

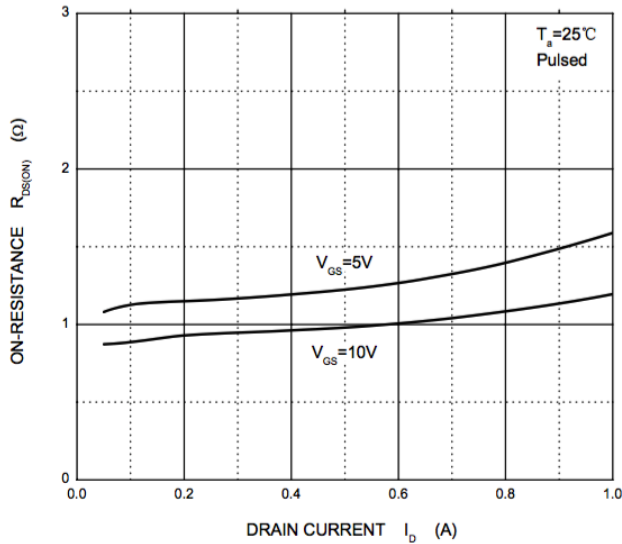
Output Characteristics



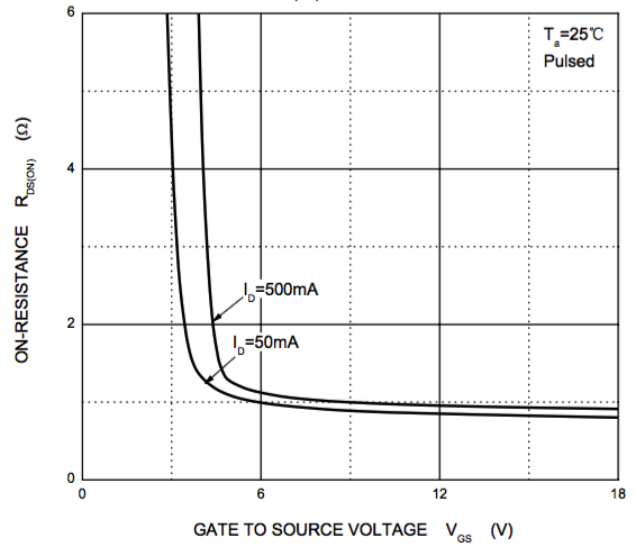
Transfer Characteristics



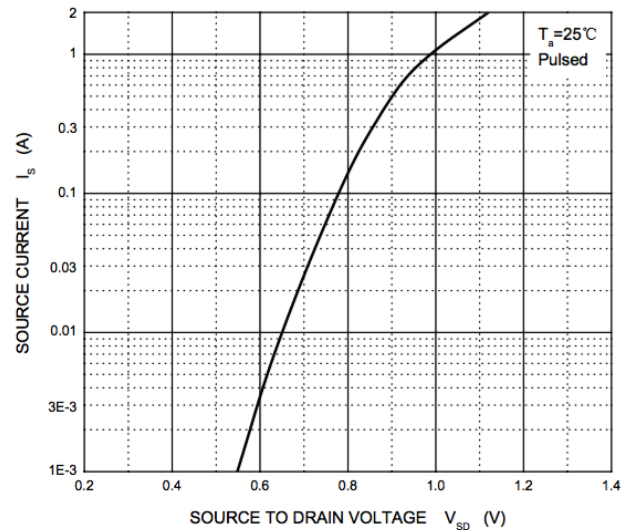
$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — V_{GS}



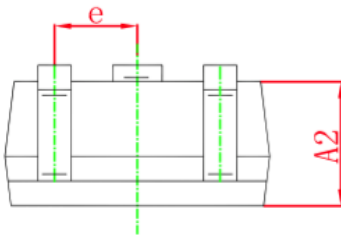
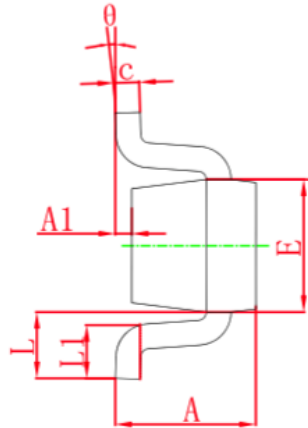
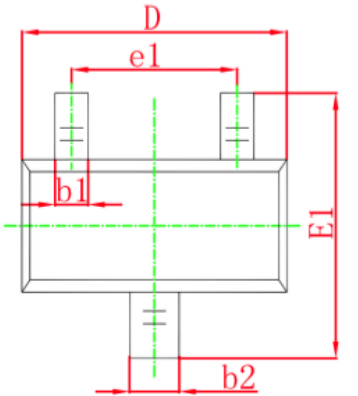
I_S — V_{SD}





Ordering Information

Part Number	Package code	Packaging
HSST6072	SOT-523	3000/Tape&Reel



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°