

General Description

The HSST3134 is the high cell density trench N-ch MOSFETs, which provides excellent RDSON and efficiency for most of the small power switching and load switch applications.

The HSST3134 meets the RoHS and Green Product requirement with full function reliability approved.

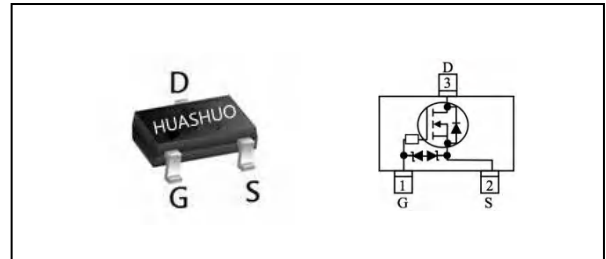
Features

- Fast Switching Speed
- Super Low Gate Charge
- High-Side Switching
- Low Threshold
- ESD Protected

Product Summary

V_{DS}	20	V
$R_{DS(ON),typ}$	200	mΩ
I_D	1.0	A

SOT-523 Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	20	V
V_{GS}	Gate-Source Voltage	±8	V
$I_D@T_A=25^{\circ}C$	Continuous Drain Current, V_{GS} @ 4.5V	1.0	A
I_{DM}	Pulsed Drain Current	4.0	A
$P_D@T_A=25^{\circ}C$	Total Power Dissipation ³	0.14	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
$R_{\theta JA}$	Thermal Resistance Junction-ambient ¹	---	800	°C/W



Electrical Characteristics ($T_J=25\text{ }^{\circ}\text{C}$, unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$, $I_D=1mA$	20	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance ²	$V_{GS}=4.5V$, $I_D=650mA$	---	200	250	$m\Omega$
		$V_{GS}=2.5V$, $I_D=450mA$	---	250	300	
		$V_{GS}=1.8V$, $I_D=250mA$	---	310	450	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=10V$, $I_D=300mA$	0.5	0.7	1.1	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=20V$, $V_{GS}=0V$, $T_J=25^{\circ}\text{C}$	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 8V$, $V_{DS}=0V$	---	---	± 10	μA
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=10V$, $V_{GS}=4.0V$, $R_G=10\Omega$, $R_L=67\Omega$, $I_D=150mA$	---	8	---	ns
T_r	Rise Time		---	25	---	
$T_{d(off)}$	Turn-Off Delay Time		---	16	---	
T_f	Fall Time		---	14	---	
C_{iss}	Input Capacitance	$V_{DS}=10V$, $V_{GS}=0V$, $f=1MHz$	---	31	---	pF
C_{oss}	Output Capacitance		---	14	---	
C_{rss}	Reverse Transfer Capacitance		---	12	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_{SD}	Diode Forward Voltage ²	$V_{GS}=0V$, $I_S=100mA$, $T_J=25^{\circ}\text{C}$	---	---	1.2	V



Typical Characteristics

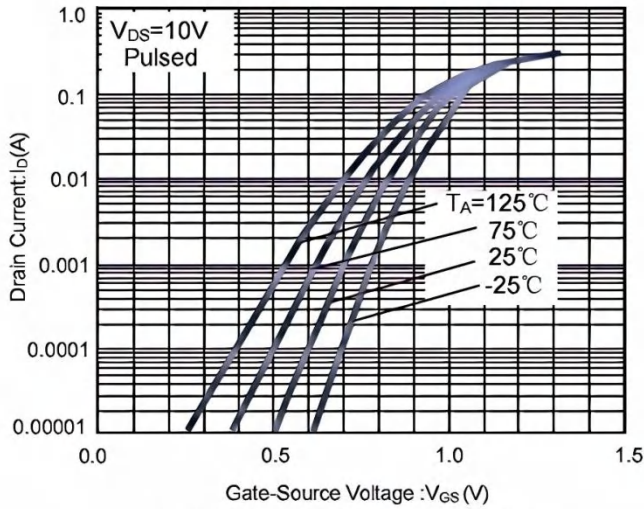


Fig 1. Typical transfer Characteristics

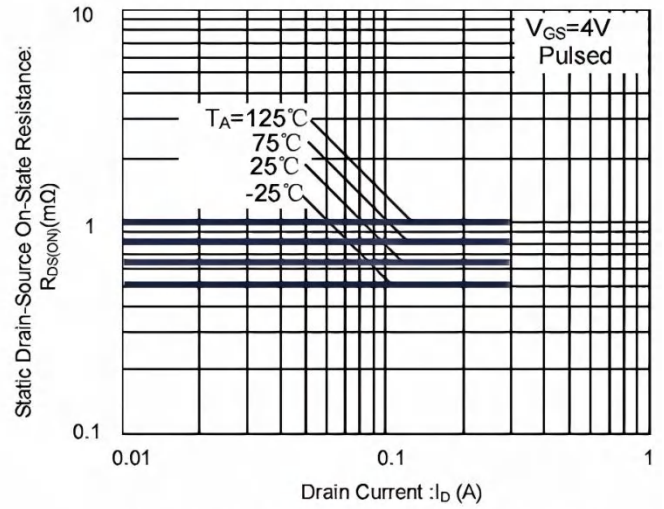


Fig 2. Static drain-source on-state resistance vs. drain current(I)

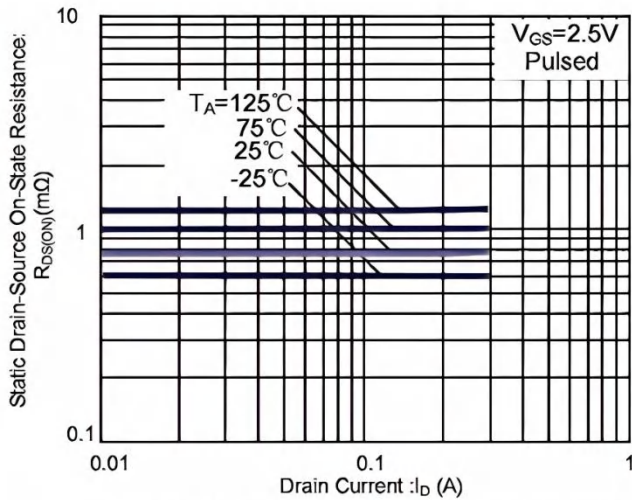


Fig 3. Static drain-source on-state resistance
Vs. drain current (II)

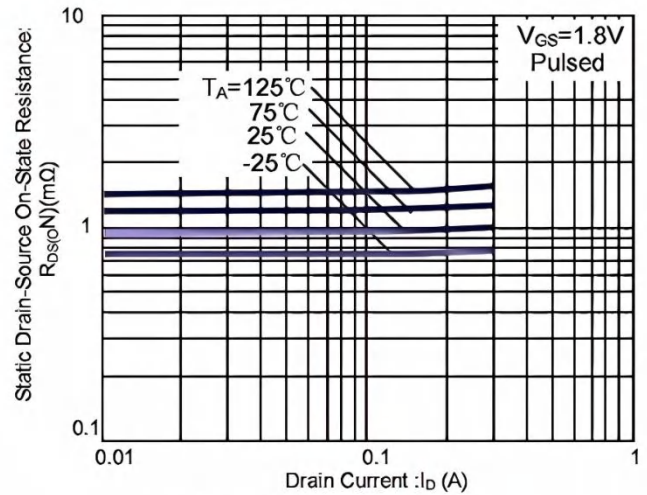


Fig 4. Static drain-source on-state resistance vs. drain current (III)

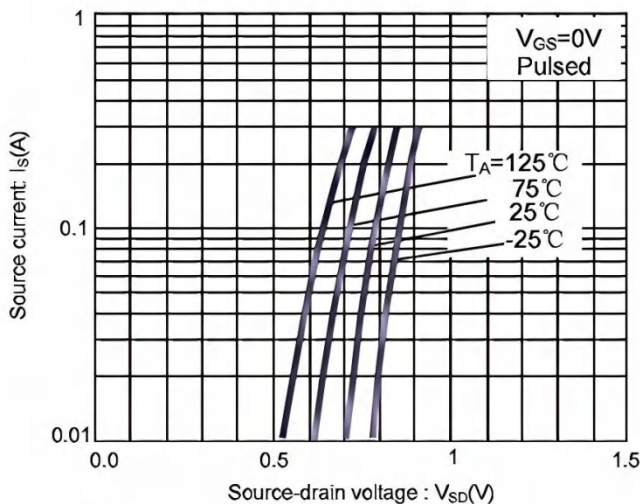


Fig 5. Source current vs. source-drain voltage

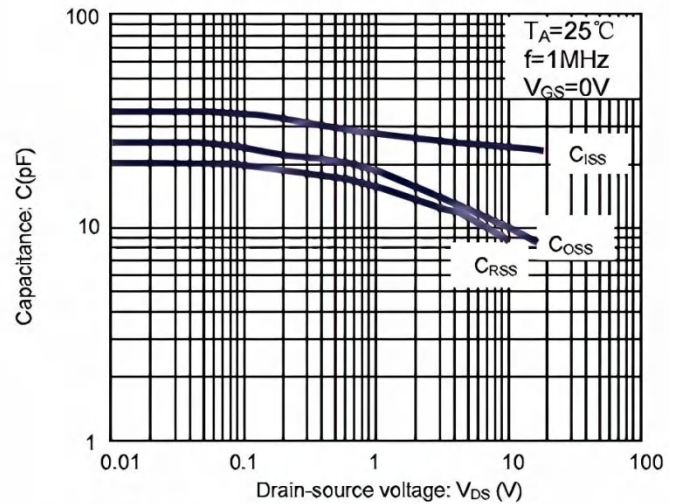


Fig 6. Typical capacitance vs. drain-source voltage



N-Ch 20V Fast Switching MOSFETs

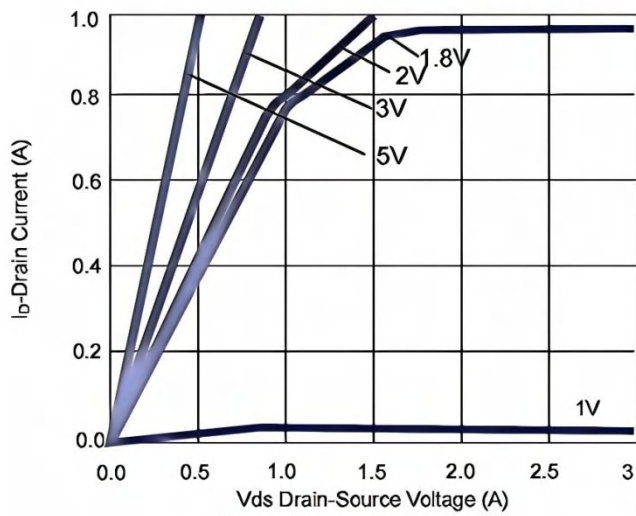


Fig 7. Output Characteristics

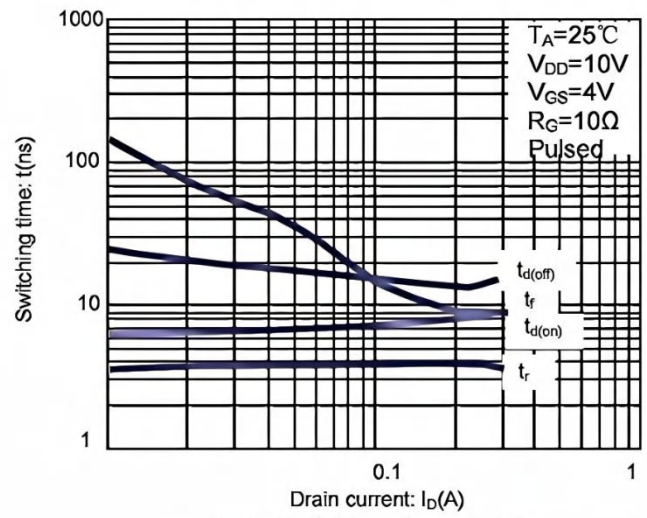


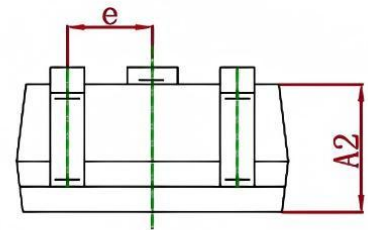
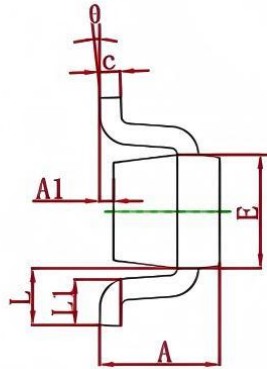
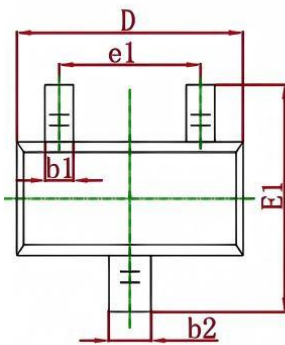
Fig 8. Switching characteristics



Ordering Information

Part Number	Package code	Packaging
HSST3134	SOT-523	3000/Tape&Reel

SOT-523 Package Outline



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°



HSST3134 TOP Marking

