

Description

This 100V 170mA N-Channel MOSFET in a SOT-23 Plastic Package.

Applications

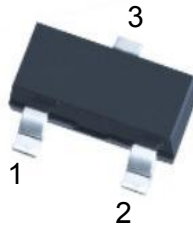
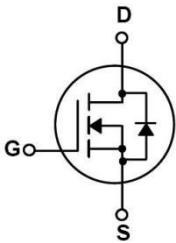
This device is suitable for use as a load switch or in PWM applications.

Features

- High density cell design for extremely low $R_{DS(on)}$
- Halogen Free Product

V_{DSS}	$R_{DS(on)}$ Typ	I_D
100V	1.2Ω	170mA

Equivalent Circuit & Pinning



PIN1 : Gate

PIN 2 : Source

PIN 3 : Drain

Absolute Maximum Ratings(Ta=25℃)

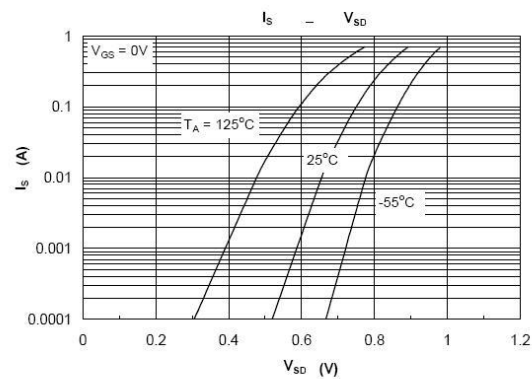
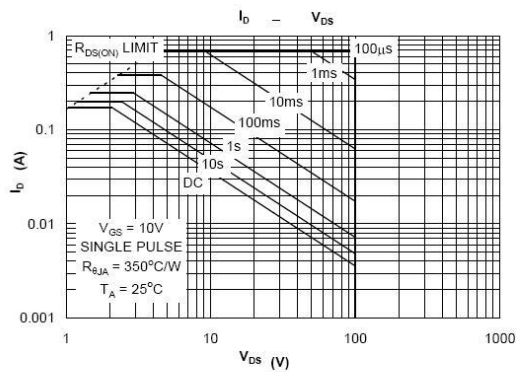
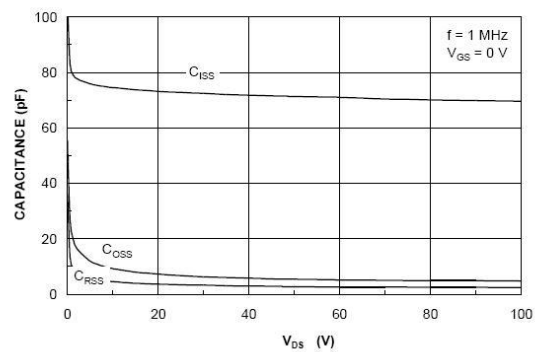
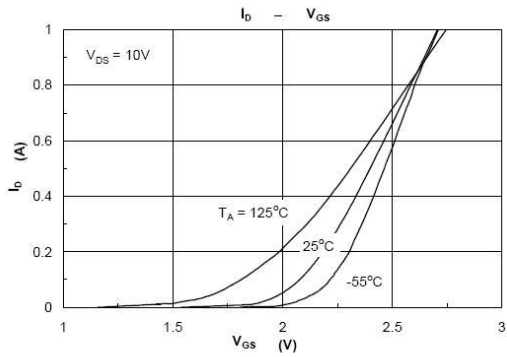
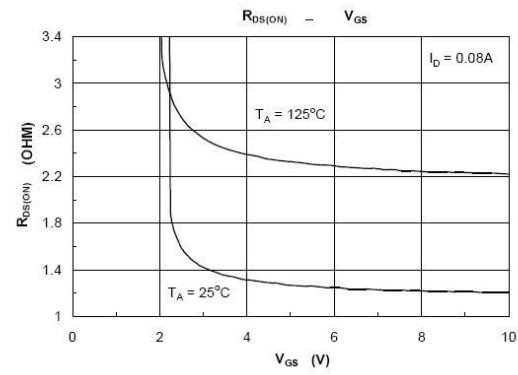
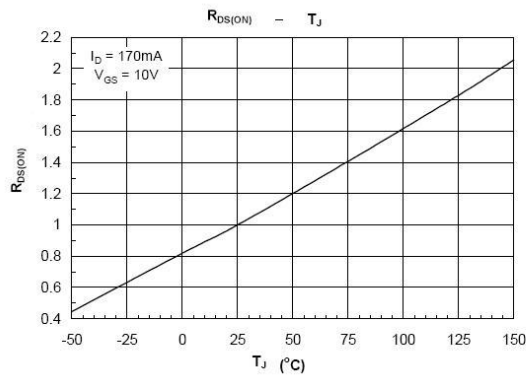
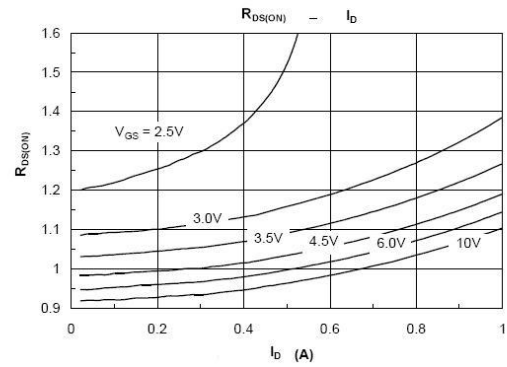
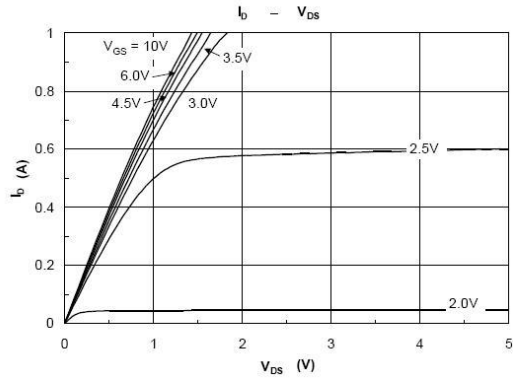
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	100	V
Drain Current – Continuous	I_D	170	mA
Drain Current– Pulsed	$I_D(T_C=25^{\circ}\text{C})$	680	mA
Continuous Drain–Source	I_S	170	mA
Gate-Source Voltage	V_{GS}	± 20	V
Power Dissipation	P_D	0.36	W
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	350	$^{\circ}\text{C/W}$
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-55 to 150	$^{\circ}\text{C}$

Electrical Characteristics(Ta=25℃)

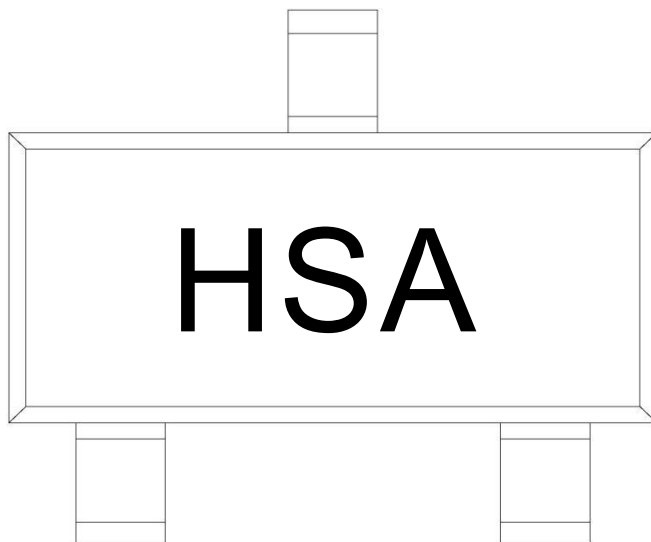
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	BV_{DS}	$V_{GS}=0V \quad I_D=250\mu A$	100			V
Zero Gate Voltage Drain Current	$I_{DSS(1)}$	$V_{DS}=100V \quad V_{GS}=0V$			1.0	μA
	$I_{DSS(2)}$	$V_{DS}=100V \quad V_{GS}=0V$ $T_J=125^{\circ}\text{C}$			60	μA
	$I_{DSS(3)}$	$V_{DS}=20V \quad V_{GS}=0V$			10	nA
Gate–Body Leakage.	I_{GSS}	$V_{GS}=\pm 20 \quad V_{DS}=0V$			± 50	nA
On–State Drain Current	$I_{D(on)}$	$V_{DS}=5.0V \quad V_{GS}=10V$	0.68			A
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS} \quad I_D=1.0mA$	0.8	1.7	2.0	V
Static Drain–Source On–Resistance	$R_{DS(on)(1)}$	$V_{GS}=10V \quad I_D=0.17A$		1.2	6.0	Ω
	$R_{DS(on)(2)}$	$V_{GS}=4.5V \quad I_D=0.17A$		1.3	10	Ω
	$R_{DS(on)(3)}$	$V_{GS}=10V \quad I_D=0.17A$ $T_J=125^{\circ}\text{C}$		2.2	12	Ω
Forward Transconductance	g_{FS}	$V_{DS}=10V \quad I_D=0.17A$	0.08	0.8		S
Drain–Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V \quad I_S=0.34A$		0.8	1.3	V
Input Capacitance	C_{iss}	$V_{DS}=25V \quad V_{GS}=0V$ $f=1.0MHz$		73		pF
Output Capacitance	C_{oss}			7		pF
Reverse Transfer Capacitance	C_{rss}			3.4		pF
Turn–On Delay Time	$t_{d(on)}$	$I_D=0.28A \quad V_{GS}=10V$ $V_{DD}=30V \quad R_G=6.0\Omega$		1.7	3.4	ns
Turn–On Rise Time	t_r			9	18	ns
Turn–Off Delay Time	$t_{d(off)}$			17	31	ns
Turn–Off Fall Time	t_f			2.4	5.0	ns



Electrical Characteristic Curve



Marking Instructions



Note:

H: Halogen Free

SA: Product Type.

Packaging SPEC.

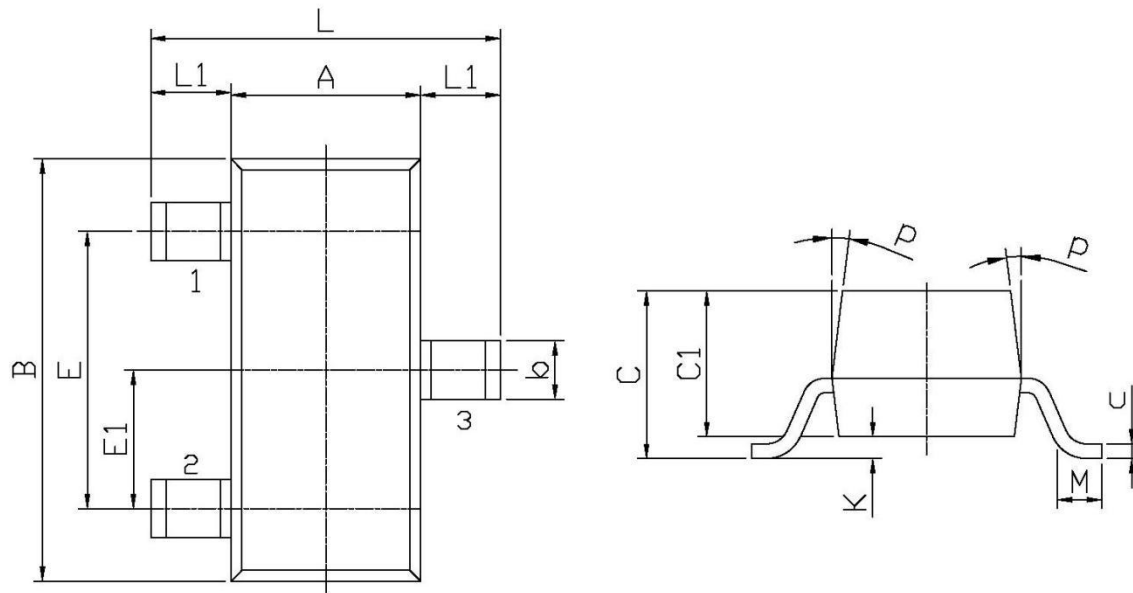
REEL INFORMATION

Package Type	Units					Dimension (unit: mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT-23	3,000	10	30,000	6	180,000	7" x8	180×120×180	390×385×205

Package Outline Dimensions

SOT-23

单位: mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.2	2.7	C	1.30Max	
L1	0.45	0.65	C1	0.90	1.20
A	1.15	1.50	c	0.05	0.20
B	2.70	3.10	K	0	0.10
E	1.70	2.10	M	0.20MIN	
E1	0.85	1.05	P	7°	
b	0.35	0.55			