

Description

This 100V 5A N-Channel MOSFET in a SOT-23-3 Plastic Package.

Features

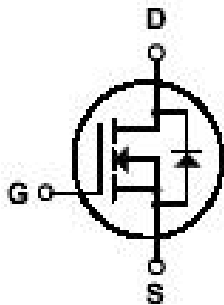
- High Reliable
- Lead Free and Green Devices Available(RoHS Compliant)
- Halogen-Free Product

Applications

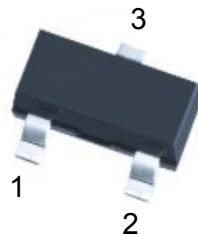
Power management in TV Inverter. Power Switch.

V_{DSS}	$R_{DS(on)Max}$	I_D
100V	175m Ω	5A

Equivalent Circuit & Pinning



PIN1 : Gate



PIN 2 : Source

PIN 3 : Drain

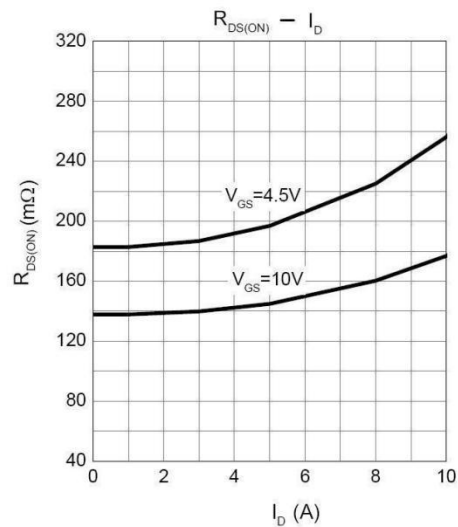
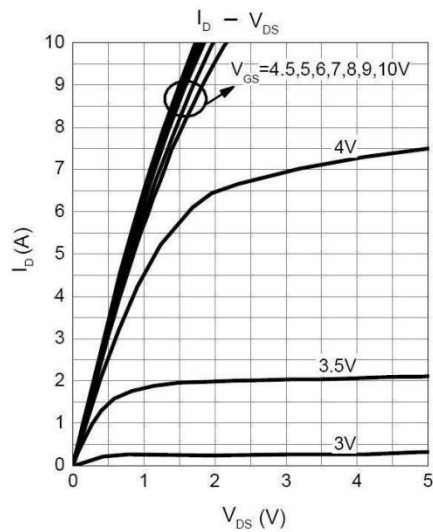
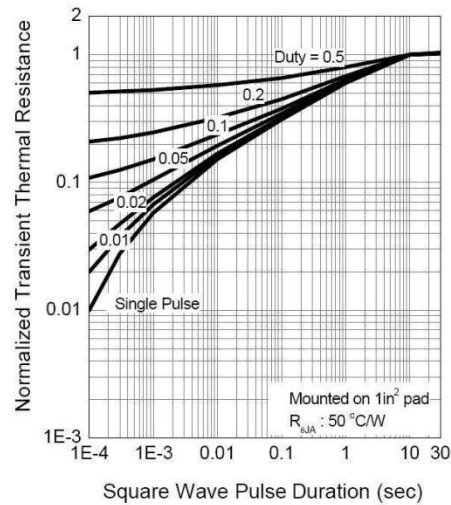
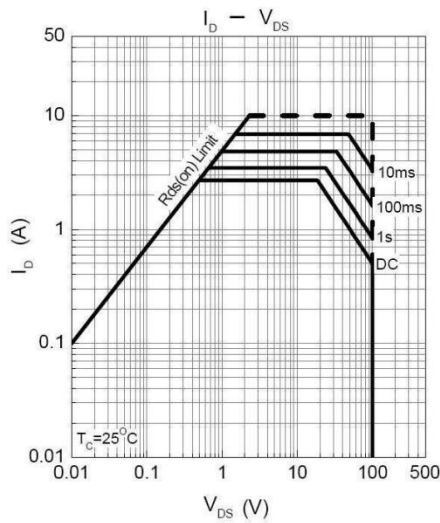
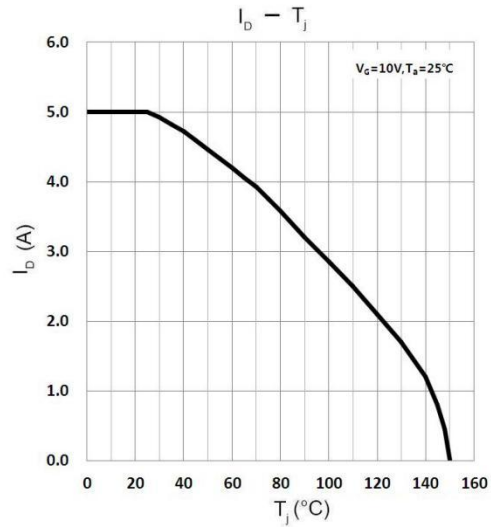
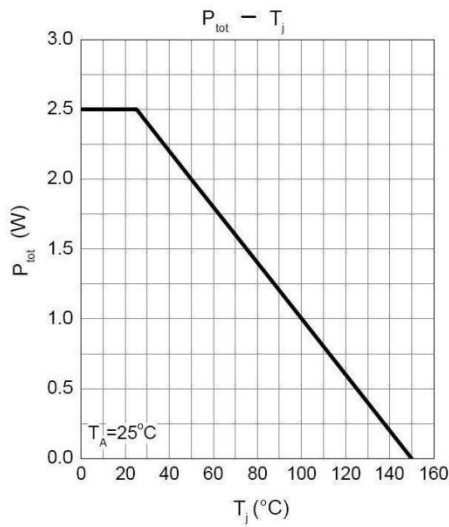
Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	100	V
Drain Current- Pulsed	I_{DM}	20	A
Maximum Drain Current - Continuous	I_D	5.0	A
Gate-Source Voltage	V_{GSS}	± 20	V
Power Dissipation	P_D	0.83	W
Maximum Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to 150	°C
Maximum Resistance –Junction to Ambient	$R_{\theta JA}$	150	°C/W

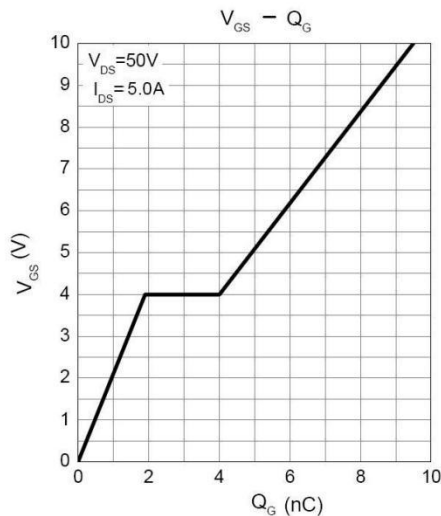
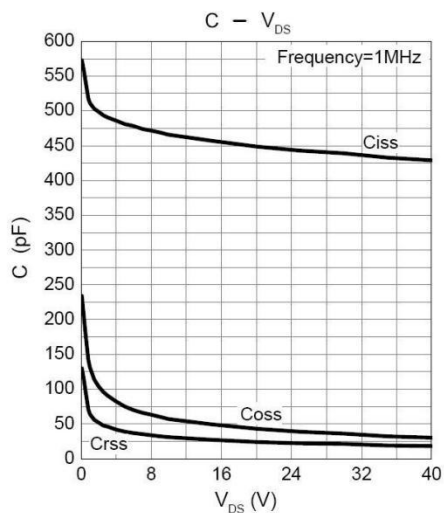
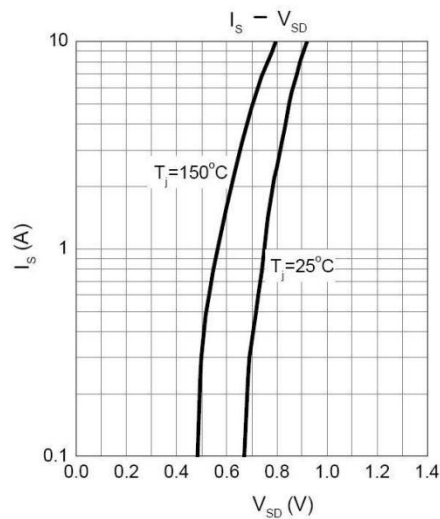
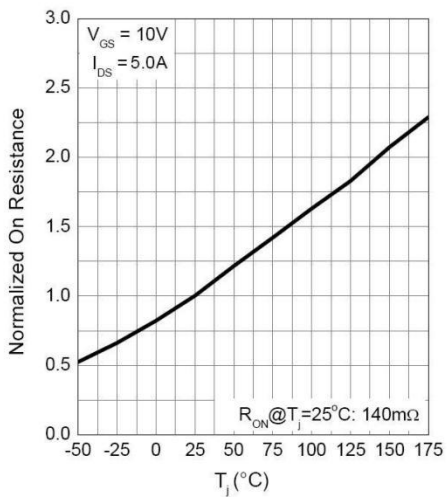
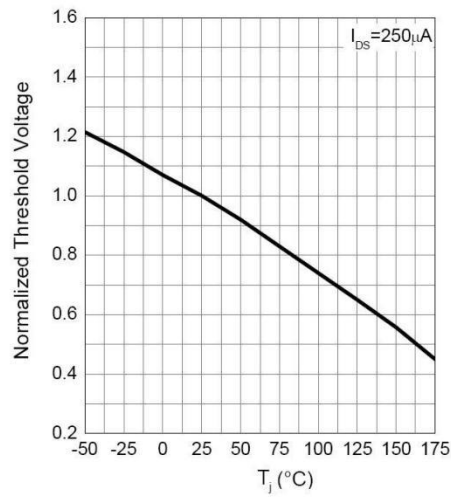
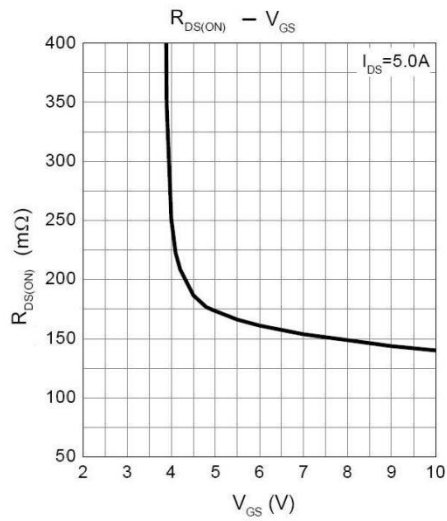
Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_{DS}=250\mu A$	100			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=80V$ $V_{GS}=0V$			1	μA
		$T_J=85^\circ C$			20	μA
Gate–Body Leakage.	I_{GSS}	$V_{GS}=\pm 16V$ $V_{DS}=0V$			± 10	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_{DS}=250\mu A$	1		3	V
Static Drain–Source On–Resistance	$R_{DS(on)(1)}$	$V_{GS}=6V$ $I_D=2A$			235	m Ω
	$R_{DS(on)(2)}$	$V_{GS}=10V$ $I_D=5A$			175	m Ω
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_F=3A$		0.8	1.1	V
Reverse Recovery Time	T_{rr}	$I_{DS}=5A$ $d_{SD}/dt=100A/\mu s$		36		ns
Reverse Recovery Charge	Q_{rr}			49		nC
Input Capacitance	C_{iss}	$V_{DS}=0V$ $V_{GS}=30V$ $f=1.0MHz$		440		pF
Output Capacitance	C_{oss}			36		pF
Reverse Transfer Capacitance	C_{rss}			20		pF
Turn–On Delay Time	$t_{d(on)}$	$I_{DS}=1A$ $V_{GEN}=10V$ $V_{DD}=30V$ $R_L=30\Omega$ $R_G=6\Omega$		11	21	ns
Turn–On Rise Time	t_r			10	19	ns
Turn–Off Delay Time	$t_{d(off)}$			21	39	ns
Turn–Off Fall Time	t_f			13	24	ns
Total Gate Charge	Q_g	$V_{DS}=50V$ $V_{GS}=10V$ $I_{DS}=5A$		9.5	13	nC
Gate- Source Charge	Q_{gs}			1.9		nC
Gate- Drain Charge	Q_{gd}			2.1		nC

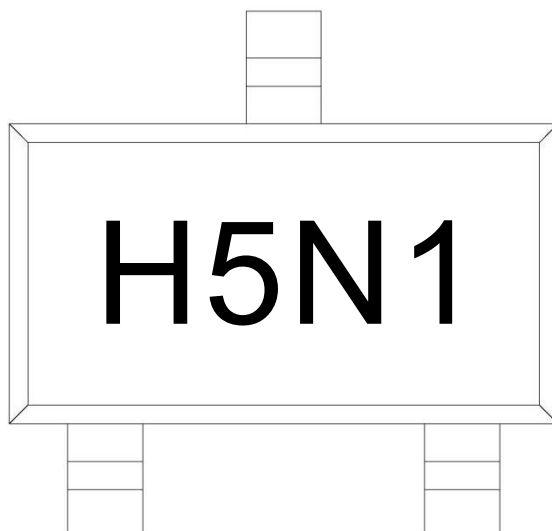
Electrical Characteristic Curve



Electrical Characteristic Curve



Marking Instructions



Note:

H: Halogen Free

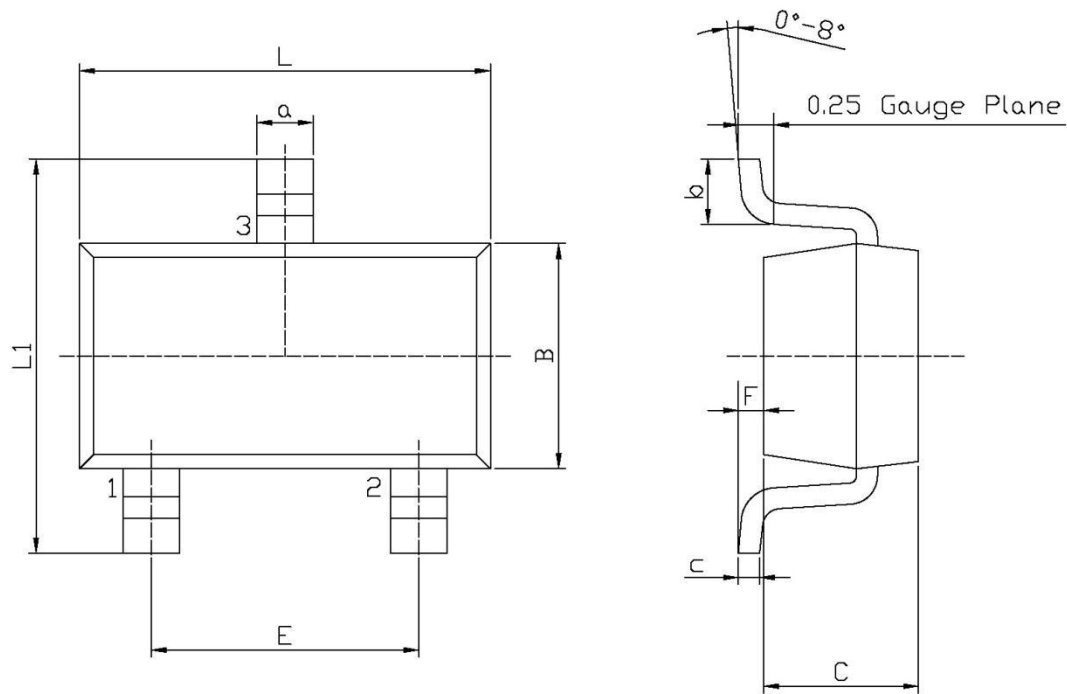
5N1: Product Type.

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	3,000	10	30,000	4	120,000	7" x8	210×205×205	445×230×435

Package Outline Dimensions



Unit: mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.82	3.02	a	0.35	0.50
B	1.50	1.70	c	0.10	0.20
C	0.90	1.30	b	0.35	0.55
L1	2.60	3.00	F	0	0.15
E	1.80	2.00			

SOT23-3