

### Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	$I_b$
100V	110mΩ@10V	3A
	120mΩ@4.5V	

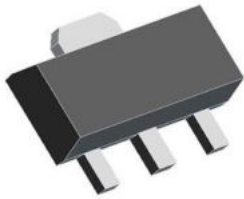
### Feature

- High density cell design for ultra low Rdson
- Fully characterized Avalanche voltage and current

### Application

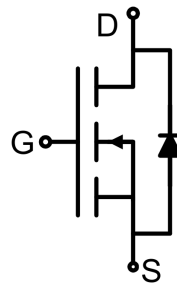
- DC-DC Converters
- Power management functions

### Package

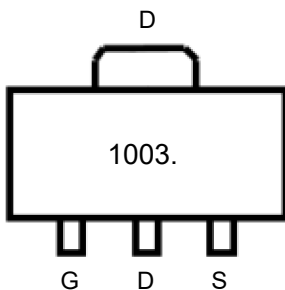


SOP-8

### Circuit diagram



### Marking



### Absolute maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V <sub>DS</sub>	100	V
Gate-Source Voltage	V <sub>GS</sub>	±20	V
Continuous Drain Current	I <sub>D</sub>	3	A
Pulsed Drain Current	I <sub>DM</sub>	12	A
Power Dissipation	P <sub>D</sub>	1.5	W
Thermal Resistance from Junction to Ambient	R <sub>θJA</sub>	83	°C/W
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>STG</sub>	-55 ~ +150	°C

### Electrical characteristics (T<sub>A</sub>=25 °C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
<b>Static Characteristics</b>						
Drain-source breakdown voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = 250μA	100			V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> = 100V, V <sub>GS</sub> = 0V			1	μA
Gate-body leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0V			±100	nA
Gate threshold voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250μA	1.1		3.0	V
Drain-source on-resistance <sup>1)</sup>	R <sub>DS(on)</sub>	V <sub>GS</sub> = 10V, I <sub>D</sub> = 3.0A			110	mΩ
		V <sub>GS</sub> = 4.5V, I <sub>D</sub> = 2.4A			120	
<b>Dynamic characteristics<sup>2)</sup></b>						
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 50V, V <sub>GS</sub> = 0V, f = 1MHz		790		pF
Output Capacitance	C <sub>oss</sub>			38		
Reverse Transfer Capacitance	C <sub>rss</sub>			30		
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> = 50V, V <sub>GS</sub> = 10V, I <sub>D</sub> = 3A		16		nC
Gate-Source Charge	Q <sub>gs</sub>			2.5		
Gate-Drain Charge	Q <sub>gd</sub>			2.6		
Turn-on delay time	t <sub>d(on)</sub>	V <sub>DD</sub> = 50V, V <sub>GS</sub> = 10V, R <sub>L</sub> = 6.4Ω, R <sub>GEN</sub> = 3Ω		5		nS
Turn-on rise time	t <sub>r</sub>			40		
Turn-off delay time	t <sub>d(off)</sub>			20		
Turn-off fall time	t <sub>f</sub>			7		
<b>Source-Drain Diode characteristics</b>						
Diode Forward Current <sup>1)</sup>	I <sub>S</sub>				3	A
Diode Forward voltage	V <sub>DS</sub>	V <sub>GS</sub> = 0V, I <sub>S</sub> = 3A			1.2	V

Notes:

- 1) Pulse Test: Pulse Width < 300μs, Duty Cycle ≤ 2%.
- 2) Guaranteed by design, not subject to production testing.

### Typical Characteristics

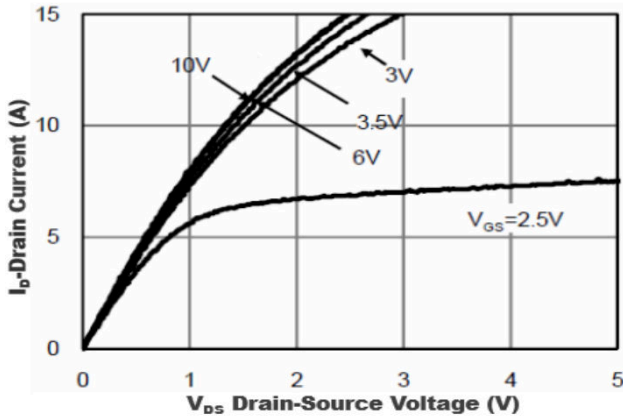


Figure1. Output Characteristics

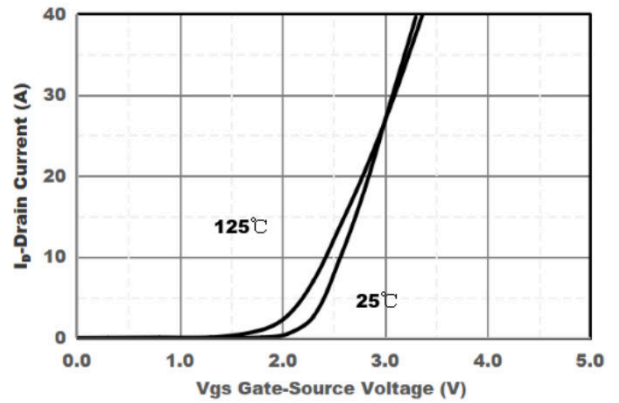


Figure2. Transfer Characteristics

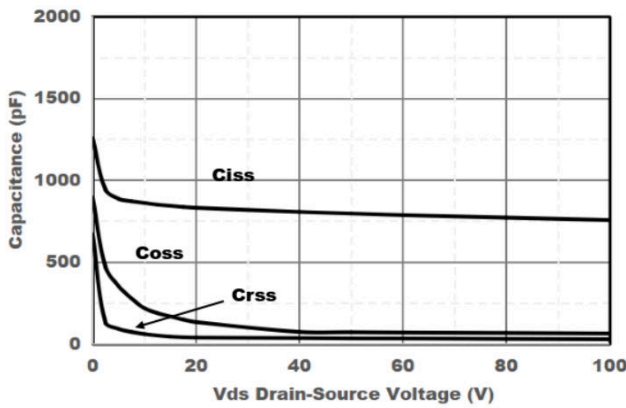


Figure3. Capacitance Characteristics

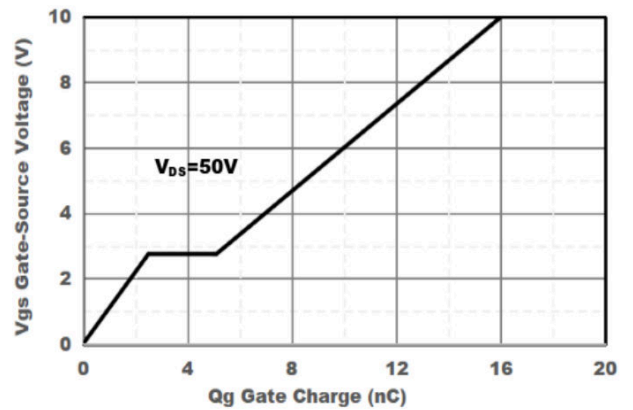


Figure4. Gate Charge

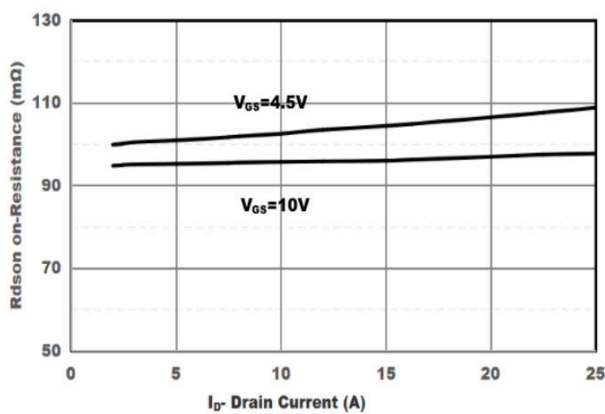


Figure5. Drain-Source on Resistance

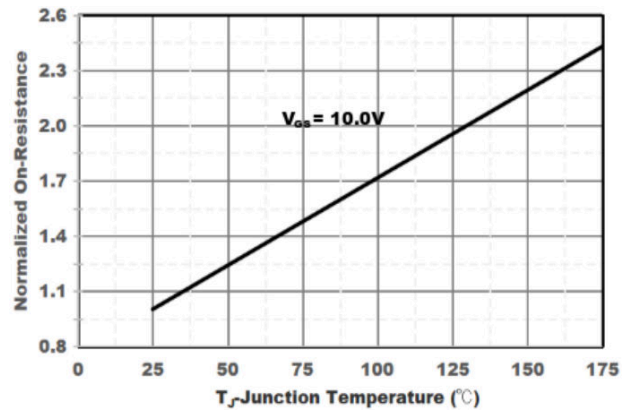
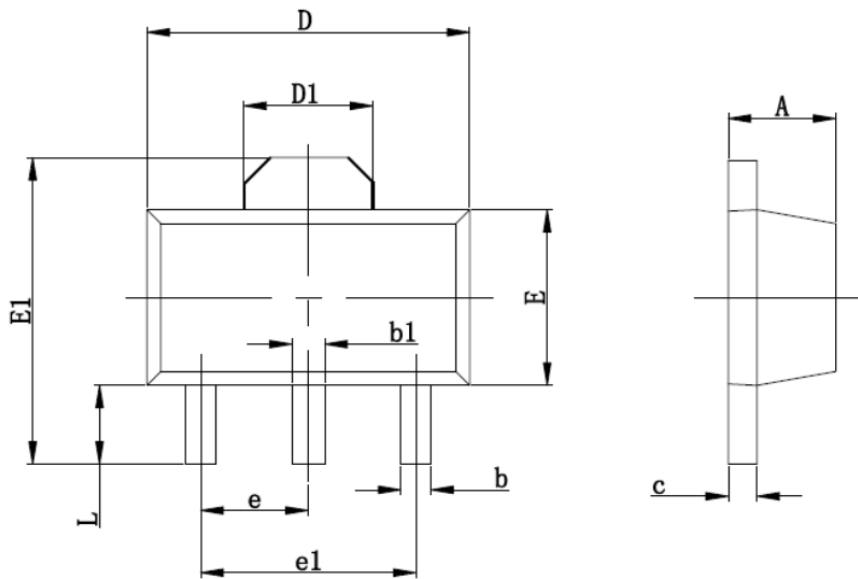


Figure6. Drain-Source on Resistance

### SOT-89 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.400	1.600	0.055	0.063
b	0.350	0.520	0.014	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF		0.061 REF	
E	2.350	2.550	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP		0.060 TYP	
e1	3.000 TYP		0.118 TYP	
L	0.900	1.100	0.035	0.047