

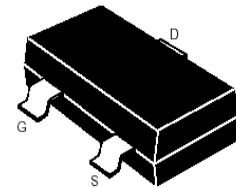
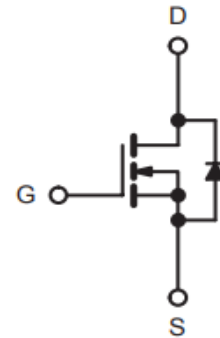
»Features

$V_{DS} = 20V$
 $I_D = 6.5A$
 $R_{DS(ON)} @V_{GS} = 4.5V, MAX = 22m\Omega$
 $R_{DS(ON)} @V_{GS} = 2.5V, MAX = 26m\Omega$

»General Description

- Advanced trench process technology
- High Density Cell Design For Ultra Low On-Resistance
- SOT-23 for Surface Mount Package.

»Pin Configurations



»Absolute Maximum Ratings @ $T_A=25^\circ C$ unless otherwise noted

Characteristic	Symbol	Max	Unit
Drain-Source Voltage	BV_{DSS}	20	V
Gate- Source Voltage	V_{GS}	± 8	V
Drain Current (continuous)	I_D	6.5	A
Drain Current (pulsed)	I_{DM}	30	A
Total Device Dissipation $T_A=25^\circ C$	P_D	1400	mW
Junction	T_J	150	$^\circ C$
Storage Temperature	T_{stg}	-55to+150	$^\circ C$

»Electrical Characteristics @ $T_A=25^{\circ}\text{C}$ unless otherwise noted

Characteristic	Symbol	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage ($I_D = 250\mu\text{A}, V_{GS}=0\text{V}$)	BV_{DSS}	20	—	—	V
Gate Threshold Voltage ($I_D = 250\mu\text{A}, V_{GS}=V_{DS}$)	$V_{GS(th)}$	0.4	—	1	V
Diode Forward Voltage Drop ($I_S = 1\text{ A}, V_{GS}=0\text{V}$)	V_{SD}	—	—	1	V
Zero Gate Voltage Drain Current ($V_{GS}=0\text{V}, V_{DS}= 16\text{V}$) ($V_{GS}=0\text{V}, V_{DS}= 16\text{V}, T_A=55^{\circ}\text{C}$)	I_{DSS}	—	—	1 5	μA
Gate Body Leakage ($V_{GS}=\pm 8\text{ V}, V_{DS}=0\text{V}$)	I_{GSS}	—	—	± 10	nA
Static Drain-Source On-State Resistance ($I_D = 6.5\text{ A}, V_{GS}= 4.5\text{V}$)	$R_{DS(ON)}$	—	—	22	$\text{m}\Omega$
Static Drain-Source On-State Resistance ($I_D = 5.5\text{ A}, V_{GS}= 2.5\text{ V}$)	$R_{DS(ON)}$	—	—	26	$\text{m}\Omega$
Input Capacitance ($V_{GS}=0\text{V}, V_{DS}= 10\text{ V}, f=1\text{MHz}$)	C_{ISS}	—	1160	—	pF
Output Capacitance ($V_{GS}=0\text{V}, V_{DS}= 10\text{ V}, f=1\text{MHz}$)	C_{OSS}	—	180	—	pF
Turn-ON Time ($V_{DS}= 10\text{ V}, I_D= 3\text{ A}, R_{GEN}=6\Omega$)	$t_{(on)}$	—	8	—	ns
Turn-OFF Time ($V_{DS}= 10\text{ V}, I_D= 3\text{ A}, R_{GEN}=6\Omega$)	$t_{(off)}$	—	60	—	ns

Notes :

 *Pulse Test : Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$.

»Typical Performance Characteristics (T_J = 25 °C, unless otherwise noted)

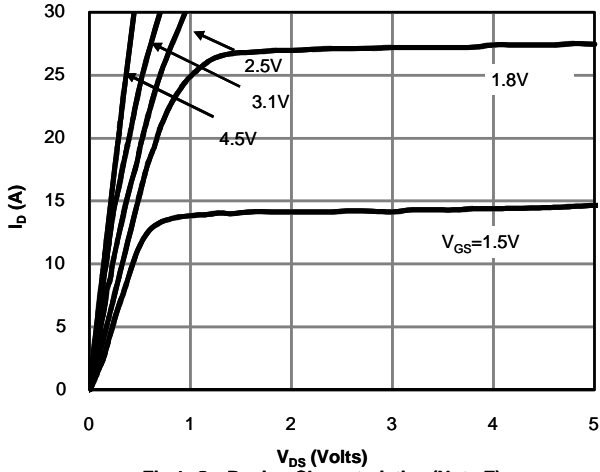


Fig 1: On-Region Characteristics (Note E)

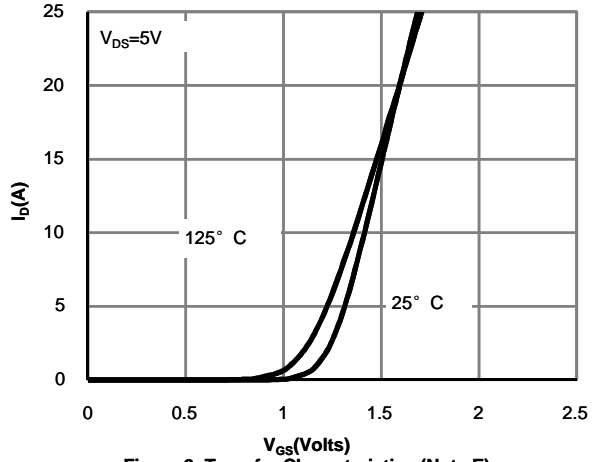


Figure 2: Transfer Characteristics (Note E)

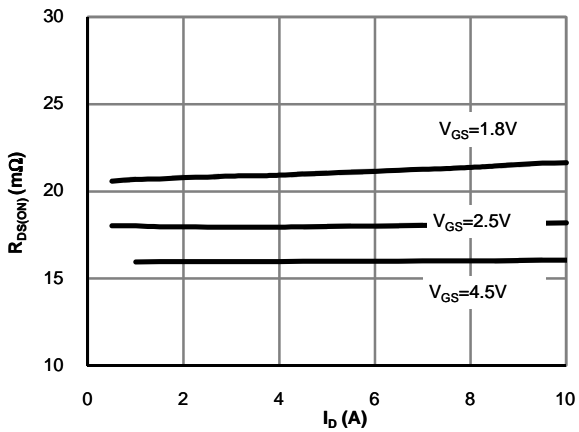


Figure 3: On-Resistance vs. Drain Current and Gate Voltage (Note E)

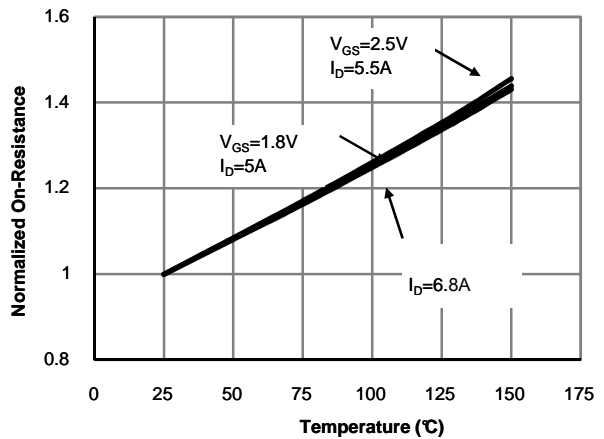


Figure 4: On-Resistance vs. Junction Temperature (Note E)

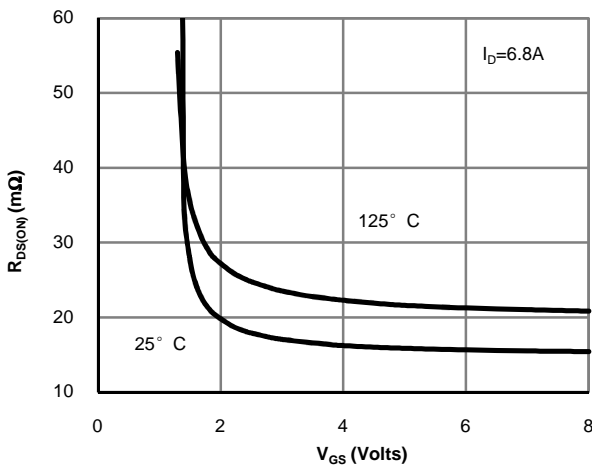


Figure 5: On-Resistance vs. Gate-Source Voltage (Note E)

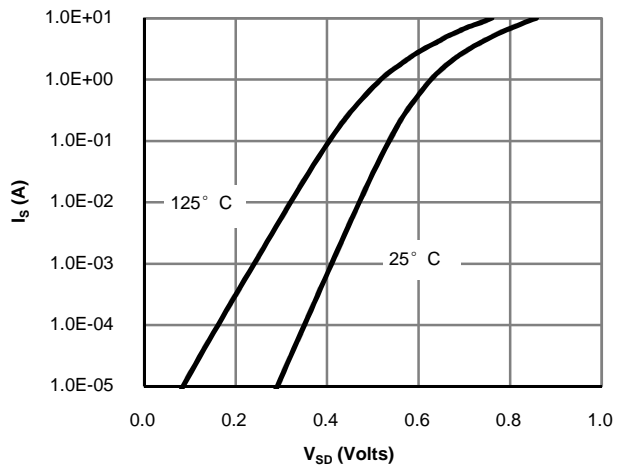


Figure 6: Body-Diode Characteristics (Note E)

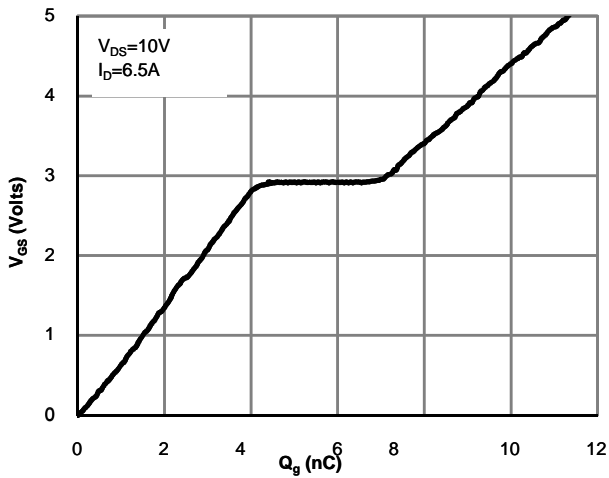


Figure 7: Gate-Charge Characteristics

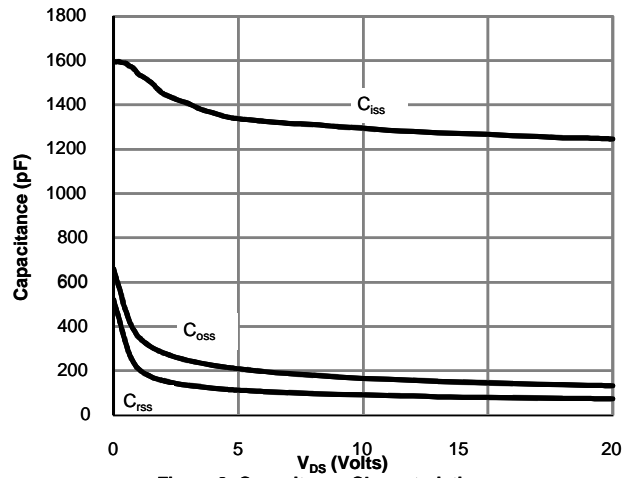


Figure 8: Capacitance Characteristics

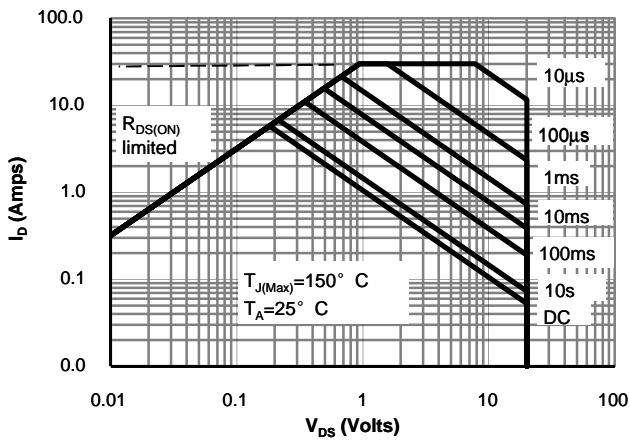


Figure 9: Maximum Forward Biased Safe Operating Area (Note F)

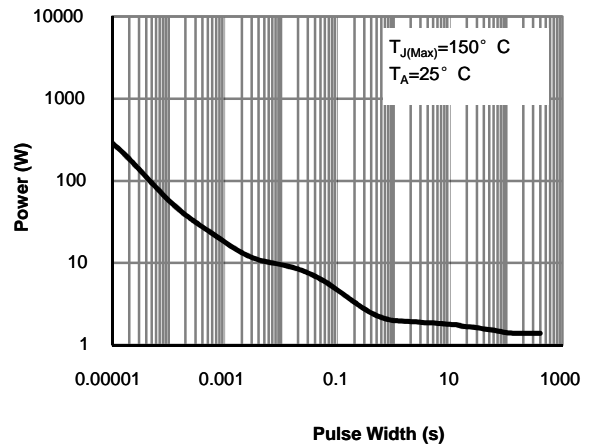
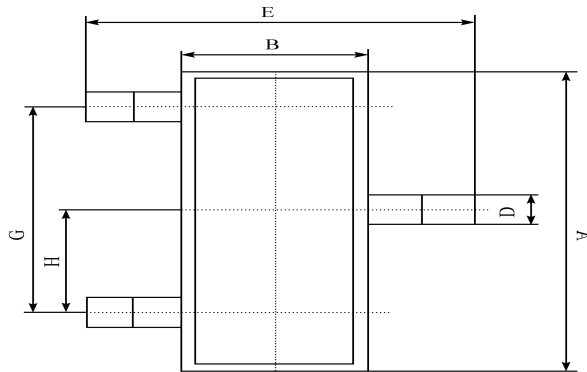


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note F)

»Package Information

SOT-23



A	2.90 ± 0.10
B	1.30 ± 0.10
C	1.00 ± 0.10
D	0.40 ± 0.10
E	2.40 ± 0.20
G	1.90 ± 0.10
H	0.95 ± 0.05
J	0.13 ± 0.05
K	0.00-0.10
M	≥ 0.2
N	0.60 ± 0.10
P	7 ± 2°

