

RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

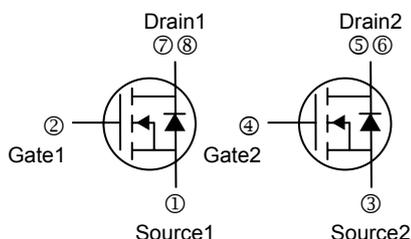
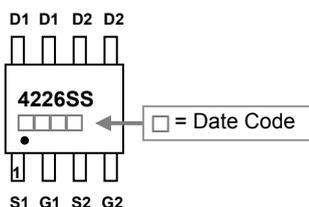
## DESCRIPTIONS & FEATURES

- The SSG4226 provides the designer with the best combination of fast switching, ruggedized device design, low on-resistance and cost-effectiveness.
- Simple Drive Requirement
- Lower On-resistance
- Dual N MOSFET Package

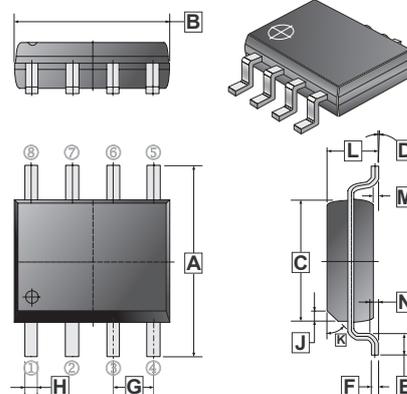
## PACKAGE INFORMATION

Weight: 0.07936g

## MARKING CODE



SOP-8



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	5.80	6.20	H	0.35	0.49
B	4.80	5.00	J	0.375 REF.	
C	3.80	4.00	K	45°	
D	0°	8°	L	1.35	1.75
E	0.40	0.90	M	0.10	0.25
F	0.19	0.25	N	0.25 REF.	
G	1.27 TYP.				

## ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	$V_{DS}$	30	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Continuous Drain Current <sup>3</sup>	$I_D @ T_A=25^\circ\text{C}$	8.2	A
Continuous Drain Current <sup>3</sup>	$I_D @ T_A=70^\circ\text{C}$	6.7	A
Pulsed Drain Current <sup>1</sup>	$I_{DM}$	30	A
Total Power Dissipation	$P_D @ T_A=25^\circ\text{C}$	2	W
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 ~ +150	$^\circ\text{C}$
Linear Derating Factor		0.016	W/ $^\circ\text{C}$

## THERMAL DATA

Parameter	Symbol	Value	Unit
Thermal Resistance Junction-ambient <sup>3</sup> Max	$R_{\theta J-AMB}$	62.5	$^\circ\text{C}/\text{W}$

**ELECTRICAL CHARACTERISTICS** ( $T_j = 25^\circ\text{C}$  unless otherwise specified)

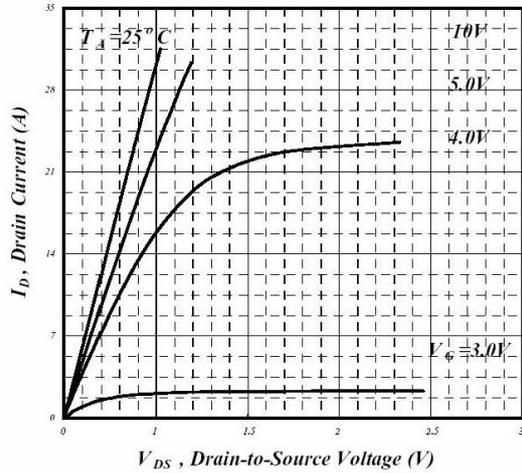
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Drain-Source Breakdown Voltage	$BV_{DSS}$	30	-	-	V	$V_{GS} = 0, I_D = 250 \mu\text{A}$
Breakdown Voltage Temperature Coefficient	$\frac{\Delta BV_{DSS}}{\Delta T_j}$	-	0.03	-	V / $^\circ\text{C}$	Reference to $25^\circ\text{C}$ , $I_D = 1 \text{ mA}$
Gate Threshold Voltage	$V_{GS(th)}$	1.0	-	3.0	V	$V_{DS} = V_{GS}, I_D = 250 \mu\text{A}$
Forward Trans-conductance	$g_{fs}$	-	15	-	S	$V_{DS} = 10 \text{ V}, I_D = 6 \text{ A}$
Gate-Source Leakage Current	$I_{GSS}$	-	-	$\pm 100$	nA	$V_{GS} = \pm 20 \text{ V}$
Drain-Source Leakage Current( $T_j=25^\circ\text{C}$ )	$I_{DSS}$	-	-	1	$\mu\text{A}$	$V_{DS} = 30 \text{ V}, V_{GS} = 0$
Drain-Source Leakage Current( $T_j=70^\circ\text{C}$ )		-	-	25	$\mu\text{A}$	$V_{DS} = 24 \text{ V}, V_{GS} = 0$
Static Drain-Source On-Resistance <sup>2</sup>	$R_{DS(ON)}$	-	-	18	m $\Omega$	$V_{GS} = 10 \text{ V}, I_D = 6.0 \text{ A}$
		-	-	40		$V_{GS} = 4.5 \text{ V}, I_D = 4.0 \text{ A}$
Total Gate Charge <sup>2</sup>	$Q_g$	-	20	30	nC	$I_D = 8 \text{ A}$ $V_{DS} = 24 \text{ V}$ $V_{GS} = 4.5 \text{ V}$
Gate-Source Charge	$Q_{gs}$	-	5	-		
Gate-Drain ("Miller") Charge	$Q_{gd}$	-	12	-		
Turn-on Delay Time <sup>2</sup>	$T_{d(on)}$	-	12	-	ns	$V_{DD} = 15 \text{ V}$ $I_D = 1 \text{ A}$ $V_{GS} = 10 \text{ V}$ $R_G = 3.3 \Omega$ $R_D = 15 \Omega$
Rise Time	$T_r$	-	8	-		
Turn-off Delay Time	$T_{d(off)}$	-	31	-		
Fall Time	$T_f$	-	12	-		
Input Capacitance	$C_{iss}$	-	1450	2320	pF	$V_{GS} = 0 \text{ V}$ $V_{DS} = 25 \text{ V}$ $f = 1.0 \text{ MHz}$
Output Capacitance	$C_{oss}$	-	320	-		
Reverse Transfer Capacitance	$C_{rss}$	-	230	-		

**SOURCE-DRAIN DIODE**

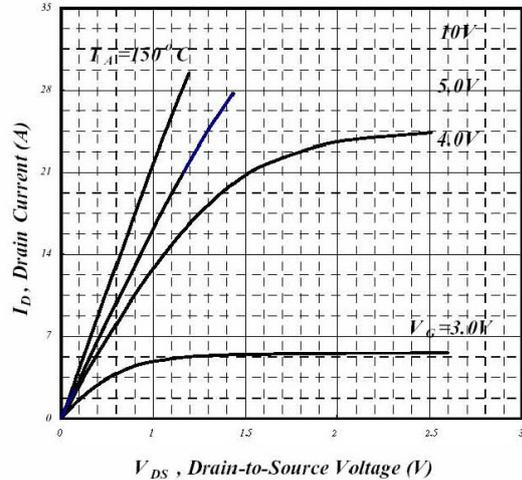
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Forward On Voltage <sup>2</sup>	$V_{SD}$	-	-	1.2	V	$I_S = 1.7 \text{ A}, V_{GS} = 0 \text{ V}, T_j = 25^\circ\text{C}$
Reverse Recovery Time	$T_{rr}$	-	27	-	nS	$I_S = 8 \text{ A}, V_{GS} = 0 \text{ V},$
Reverse Recovery Charge	$Q_{rr}$	-	18	-	nC	$di/dt = 100 \text{ A}/\mu\text{s}$

- Notes:
1. Pulse width limited by Max. junction temperature.
  2. Pulse width  $\leq 300 \mu\text{s}$ , duty cycle  $\leq 2\%$ .
  3. Surface mounted on 1 in<sup>2</sup> copper pad of FR4 board; 135 $^\circ\text{C}/\text{W}$  when mounted on Min. copper pad.

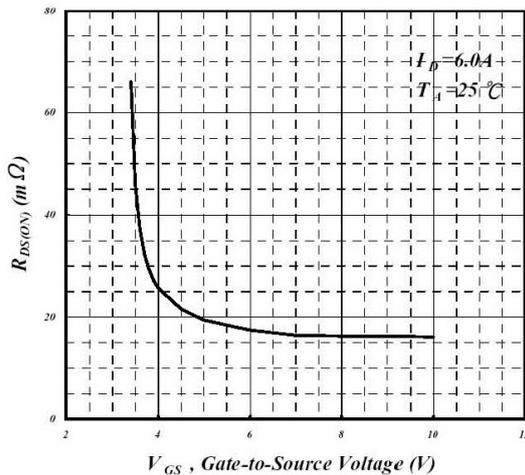
**CHARACTERISTIC CURVE**



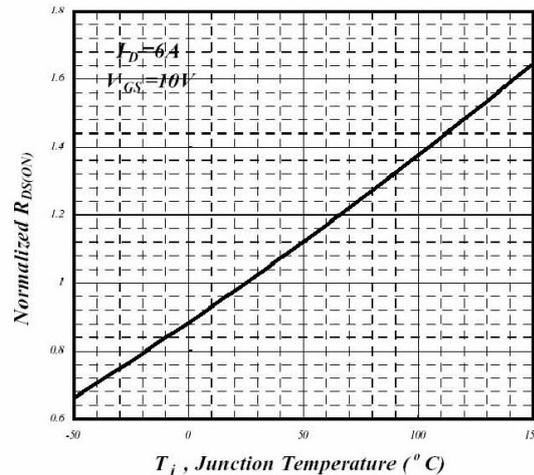
**Fig 1. Typical Output Characteristics**



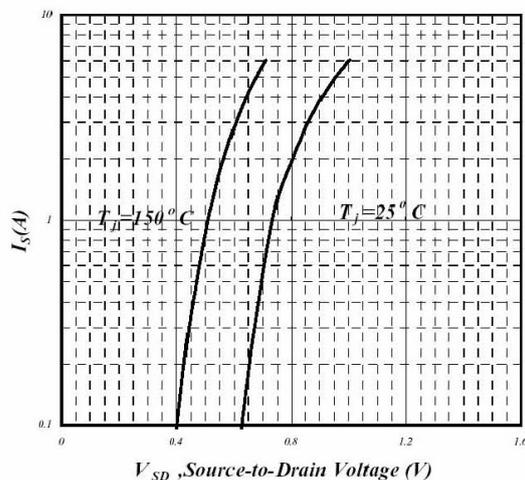
**Fig 2. Typical Output Characteristics**



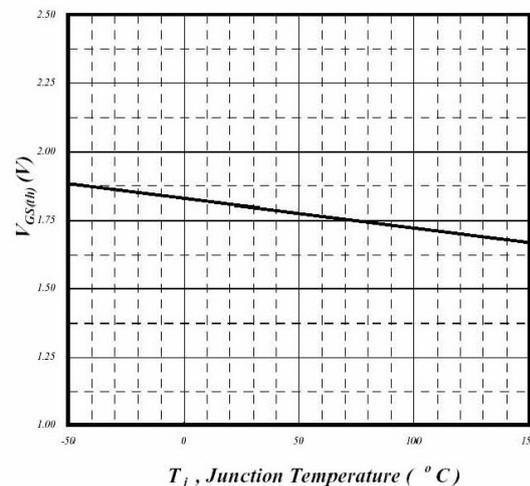
**Fig 3. On-Resistance vs. Gate Voltage**



**Fig 4. Normalized On-Resistance vs. Junction Temperature**



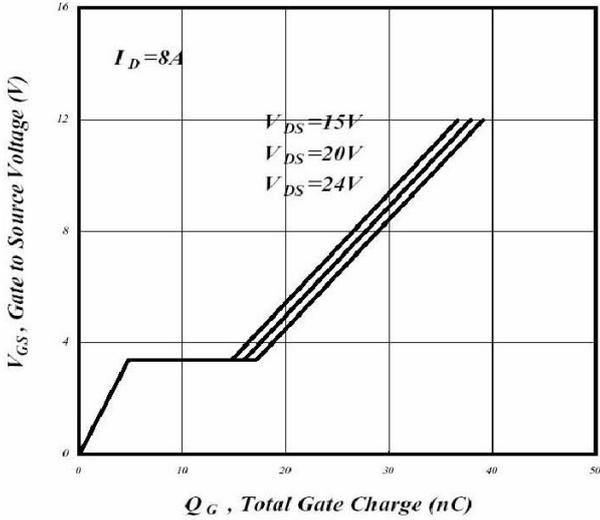
**Fig 5. Forward Characteristics of Reverse Diode**



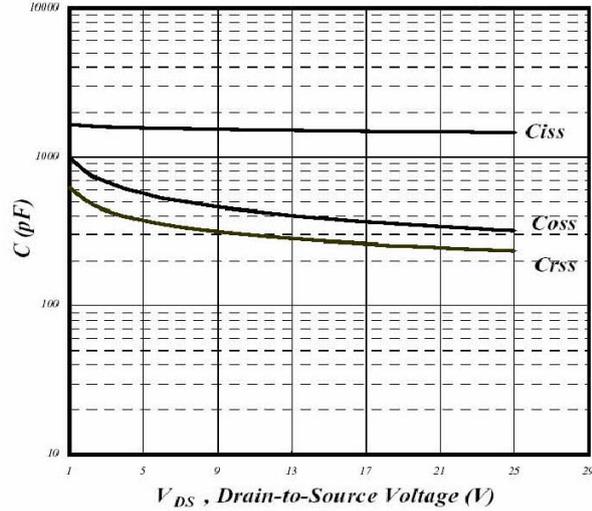
**Fig 6. Gate Threshold Voltage vs. Junction Temperature**

**CHARACTERISTIC CURVES (cont'd)**

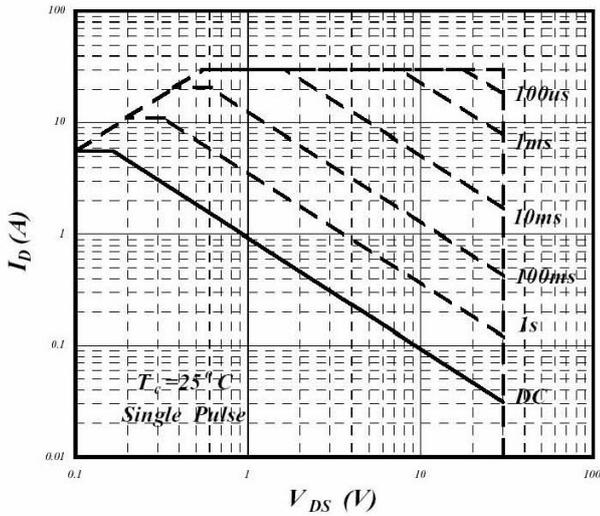
$F=1.0\text{MHz}$



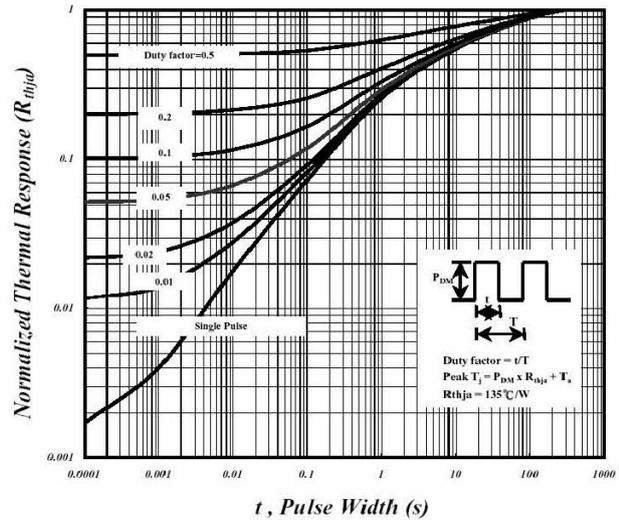
**Fig 7. Gate Charge Characteristics**



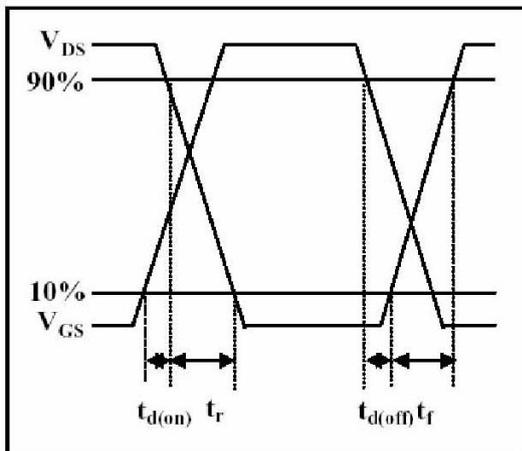
**Fig 8. Typical Capacitance Characteristics**



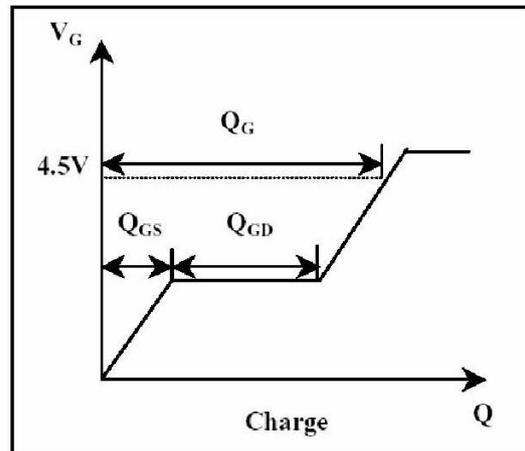
**Fig 9. Maximum Safe Operating Area**



**Fig 10. Effective Transient Thermal Impedance**



**Fig 11. Switching Time Waveform**



**Fig 12. Gate Charge Waveform**