Dual N-Channel Enhancement Mode MOSFET

- **Features**

20V/0.7A ,

$R_{DS(ON)}$ =140mΩ @ V_{GS}= 4.5V

$R_{DS(ON)}$ =180mΩ @ V_{GS}= 2.5V

$R_{DS(ON)}$ =270mΩ @ V_{GS}= 1.8V

- **APPLICATIONS**

Replace Digital Transistor

Battery Operated Systems

Power Supply Converter Circuits

Load/Power Switching Cell Phones, Pagers

- **General Description**

This device uses advanced trench technology to provide excellent $R_{DS(ON)}$ and low gate charge. The low operation voltage and high switching speed make it ideal for portable equipments.

- **Pin Configuration**

SOT363(Top View)
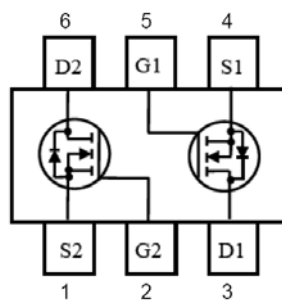
- **Absolute Maximum Ratings** (T_A=25°C unless otherwise noted)

Parameter		Symbol	Maximum	Units
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	±8	
Continuous Drain Current	T_A=25°C	I_D	0.70	A
	Pulsed		2	
Power Dissipation	T_A=25°C	P_D	0.250	W
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to 150	°C

Note1.   Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inches. The rating is for each chip in the package.

- **Electrical Characteristics** (T_A=25°C unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
STATIC PARAMETERS						
BV_{DSS}	Drain-Source Breakdown Voltage	I_D=250µA, V_{GS}=0V	20			V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=16V, V_{GS}=0			-1	uA
I_{GSS}	Gate-Body leakage current	V_{DS}=0V, V_{GS}=±8V			±0.1	
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS} I_D=250µA	0.35	0.90	1	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS} = 4.5 V, I_D =0.6 A		140	450	mΩ
		V_{GS} = 2.5 V, I_D =0.5A		180	765	
		V_{GS} = 1.8 V, I_D =0.35A		270	850	
V_{SD}	Diode Forward Voltage	I_S=0.15A,V_{GS}=0V		0.68	1.2	V
DYNAMIC PARAMETERS						
C_{iss}	Input Capacitance	V_{GS}=0V, V_{DS}=6V, f=200KHz		130		pF
C_{oss}	Output Capacitance			70		
C_{rss}	Reverse Transfer Capacitance			100		
SWITCHING PARAMETERS						
$t_{D(on)}$	Turn-On Delay Time	V_{GS}=4.5V, V_{DS}=6V, R_L=6Ω, R_{GEN}=6Ω,I_D=1A		6		ns
$t_{D(off)}$	Turn-Off Delay Time			28		

Note 2.   Short duration test pulse used to minimize self-heating effect.

FS2324

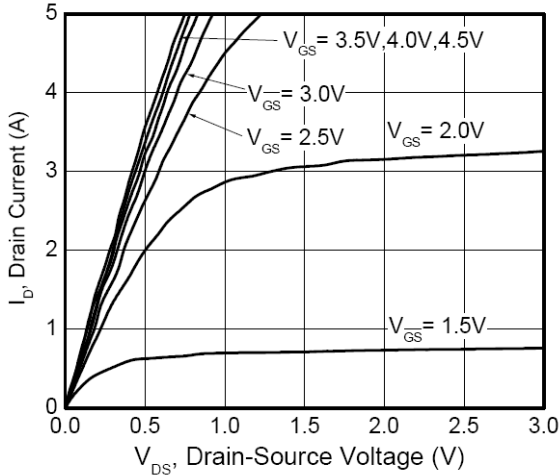- **TYPICAL CHARACTERISTICS** (T$_A$=25°C UNLESS NOTED)
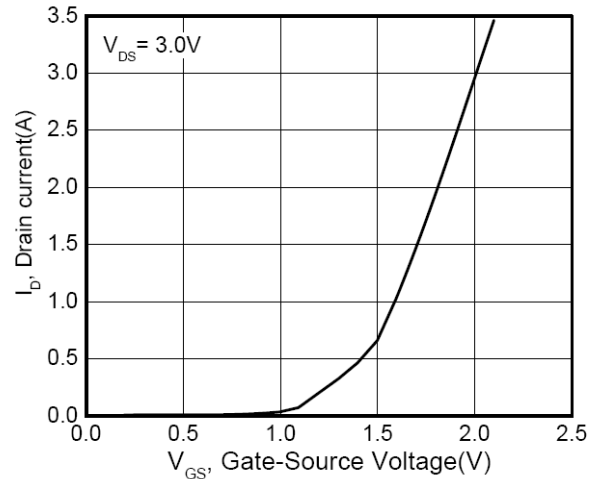
Figure 1. Output Characteristics
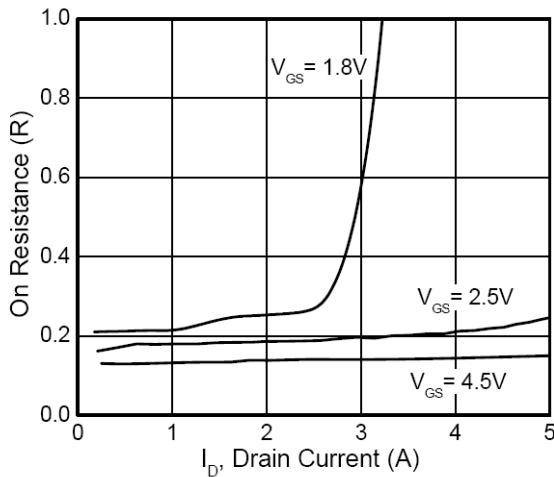
Figure 2. Transfer Characteristics
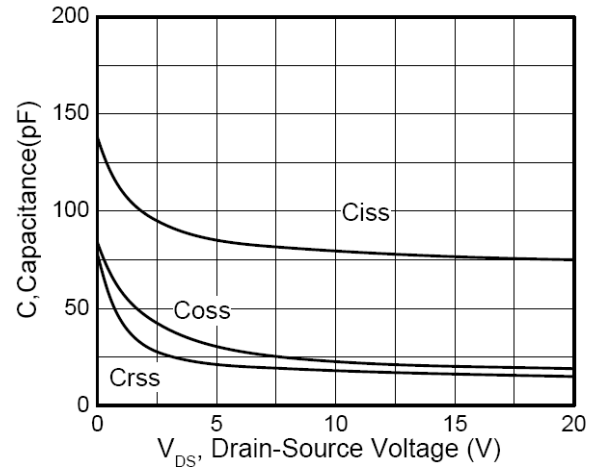
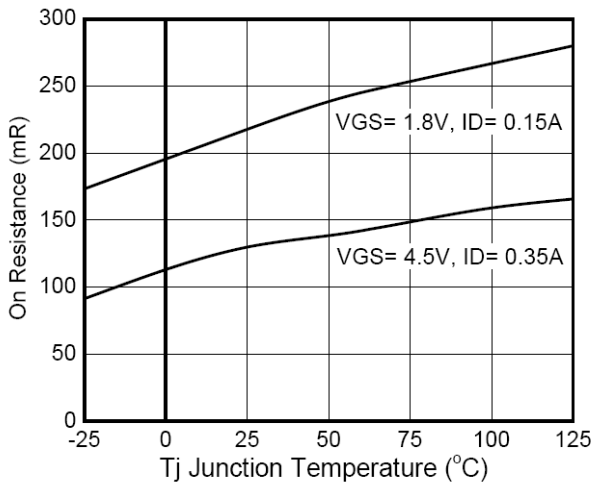**Figure 3. On-Resistance vs. Drain Current**

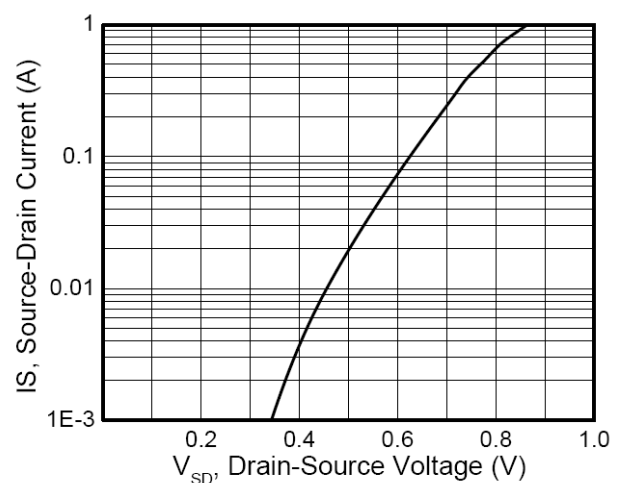**Figure 4. Capacitance**

Figure 5 . On-Resistance vs. Temperature

Figure 6. Diode Forward Characteristics

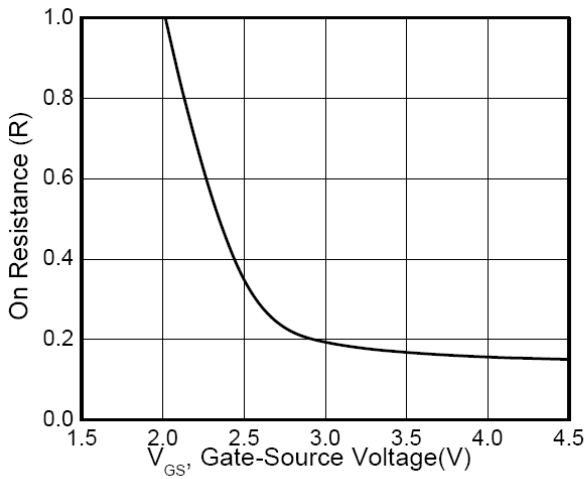● ‥TYPICAL CHARACTERISTICS (T$_A$=25°C UNLESS NOTED)
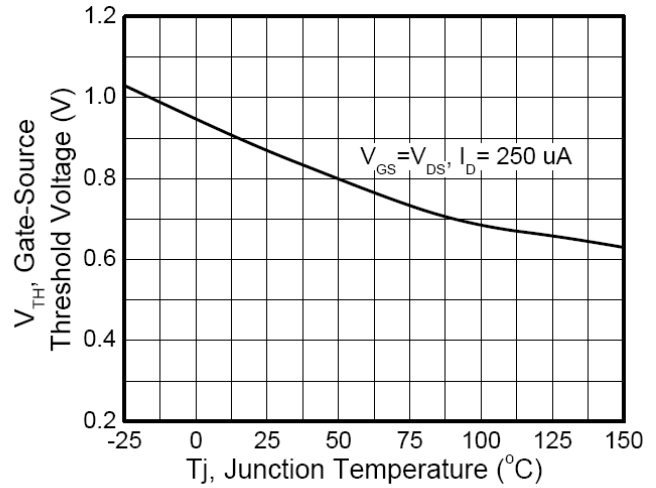

Figure 7. On Resistanc vs. Gate-Source Voltage

Figure 8. Gate Threshold vs. Temperature

● **Package Information**

Dim	Min	Max	Dim
A	0.10	0.30	A
B	1.15	1.35	B
C	2.00	2.20	C
D	0.65 Typ		D
F	0.40	0.45	F
H	1.80	2.20	H
J	0	0.10	J
K	0.90	1.00	K
L	0.25	0.40	L
M	0.10	0.22	M
α	0°	8°	α

SOT363： mm