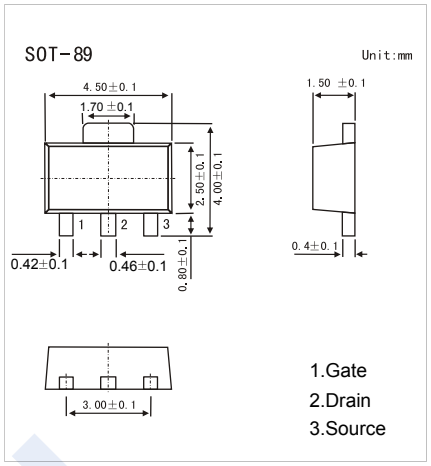
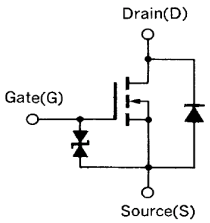
N-Channel MOSFET
2SK1588-HF



■ Features

- $V_{DS\ (V)}$ = 16V
- I_D = 3 A
- $R_{DS(ON)}$ < 0.3Ω (V_{GS} = 4V)
- $R_{DS(ON)}$ < 0.5Ω (V_{GS} = 2.5V)
- Pb−Free Package May be Available.

  The G−Suffix Denotes a Pb−Free Lead Finish



■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	16	V
Gate-Source Voltage	V_{GS}	±16	
Continuous Drain Current	I_D	3	A
Pulsed Drain Current (Note.1)	I_{DM}	6	
Power Dissipation	P_D	2	W
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	-55 to 150	

Note.1: PW ≤ 10ms, Duty Cycle ≤ 50%

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=250μA, V_{GS}=0V	16			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=16V, V_{GS}=0V			1	uA
Gate-Body Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±16V			±5	uA
Gate Cutt-off Voltage	$V_{GS(off)}$	V_{DS}=5V , I_D=1mA	0.8		1.6	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=4V, I_D=1.5A			0.3	Ω
		V_{GS}=2.5V, I_D=1A			0.5	
Forward Transconductance	g_{FS}	V_{DS}=3V, I_D=1A	0.4	3		S
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=3V, f=1MHz		240		pF
Output Capacitance	C_{oss}			250		
Reverse Transfer Capacitance	C_{rss}			60		
Turn-On DelayTime	$t_{d(on)}$	$V_{GS(on)}$=3V, V_{DS}=3V, I_D=1.5A,R_L=2Ω,R_G=10Ω		140		ns
Turn-On Rise Time	t_r			650		
Turn-Off DelayTime	$t_{d(off)}$			120		
Turn-Off Fall Time	t_f			160		

■ Marking

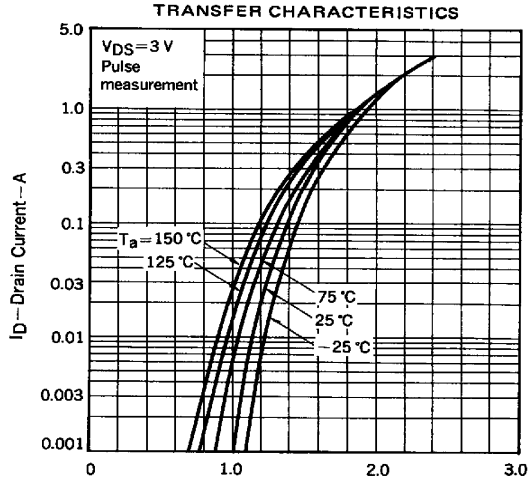
Marking	NG F

N-Channel MOSFET

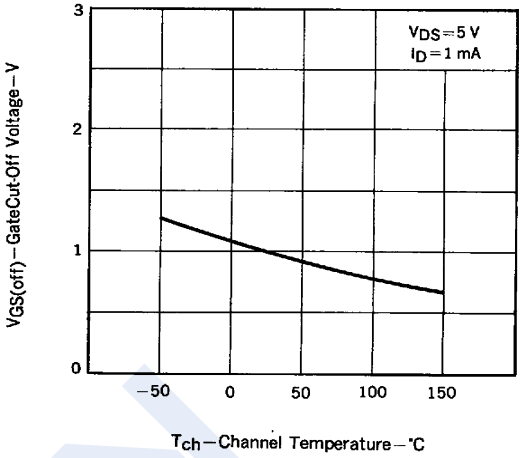
2SK1588-HF

■ Typical Characterisitics

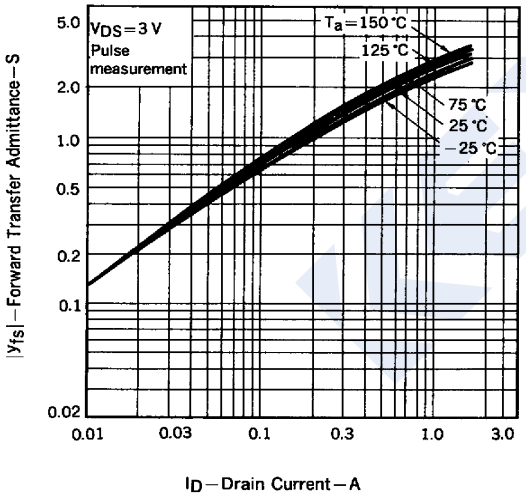
TRANSFER CHARACTERISTICS



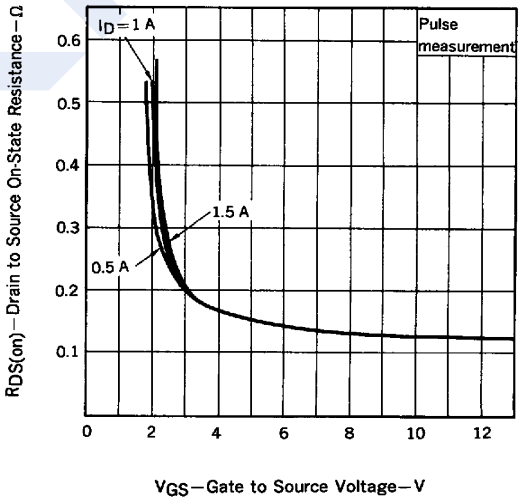
GATE TO SOURCE CUTOFF VOLTAGE vs. CHANNEL TEMPERATURE



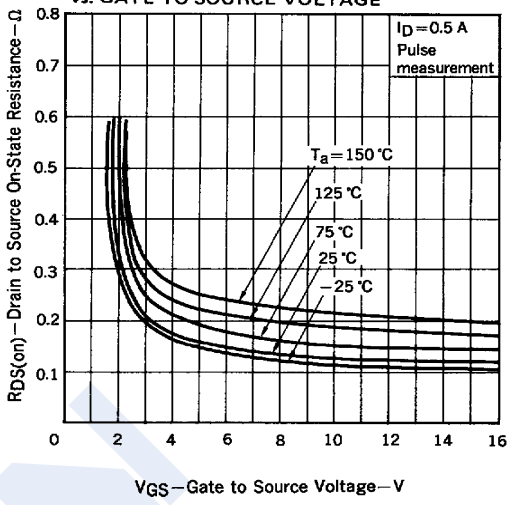
FORWARD TRANSFER ADMITTANCE vs. DRAIN CURRENT



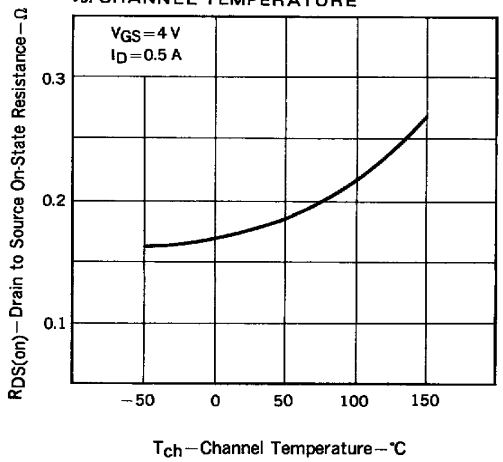
DRAIN TO SOURCE ON-STATE RESISTANCE vs. GATE TO SOURCE VOLTAGE



DRAIN TO SOURCE ON-STATE RESISTANCE vs. GATE TO SOURCE VOLTAGE



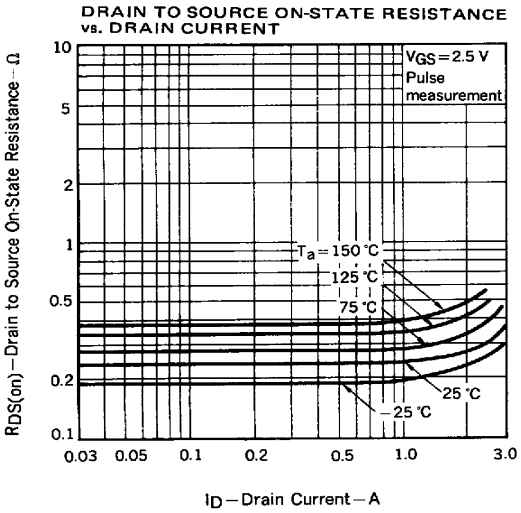
DRAIN TO SOURCE ON-STATE RESISTANCE vs. CHANNEL TEMPERATURE

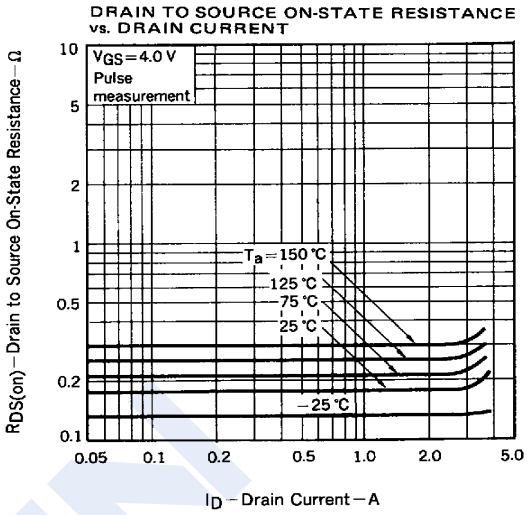


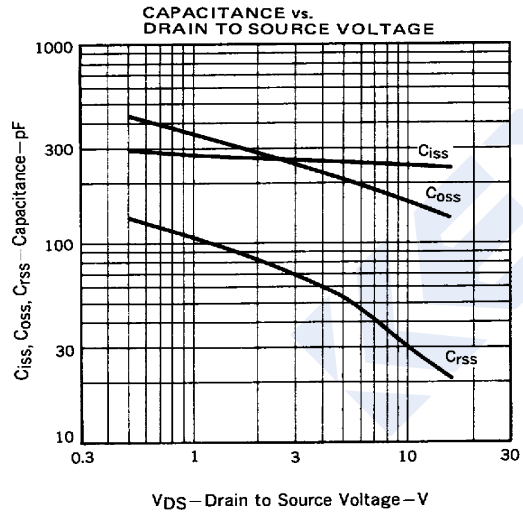
N-Channel MOSFET

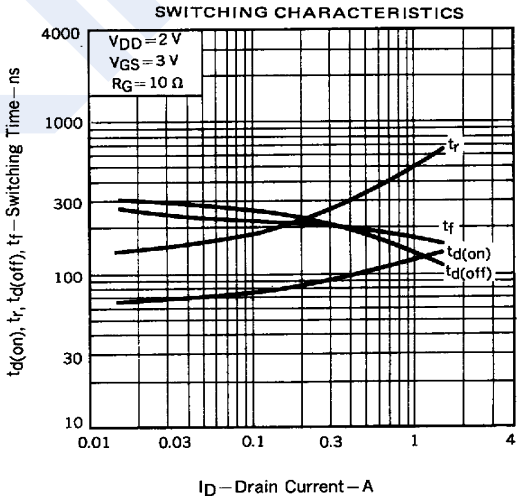
2SK1588-HF

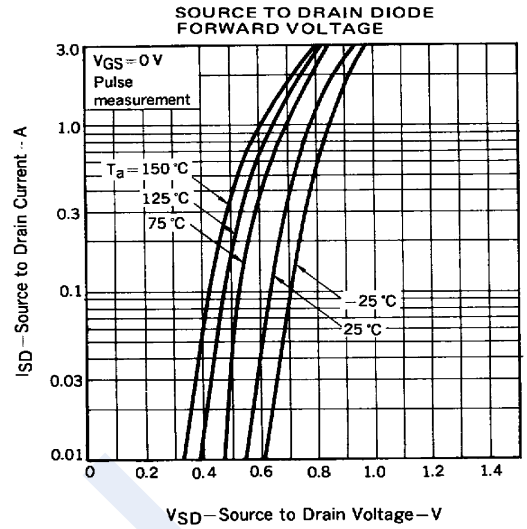
■ Typical Characterisitics











N-Channel MOSFET

2SK1588-HF

■ Typical Characterisitics