UP0487CG

Silicon N-channel MOSFET

For switching circuits

■ Features

- High-speed switching
- Incorporating a built-in gate protection-diode
- Two elements incorporated into one package (Each transistor is separated)
- SSMini type package, reduction of the mounting area and assembly cost

■ Basic Part Number

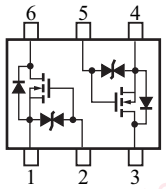
- 2SK3937 × 2

■ Package

- Code
  SSMini6-F2
- Pin Name
  1: Source (FET1) 4: Source (FET2)
  2: Gate (FET1) 5: Gate (FET2)
  3: Drain (FET2) 6: Drain (FET1)

■ Marking Symbol: 2V

■ Internal Connection



■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Drain-source surrender voltage	V_{DSS}	20	V
Gate-source surrender voltage	V_{GSS}	±12	V
Drain current	I_D	100	mA
Peak drain current	I_{DP}	200	mA
Total power dissipation	P_T	125	mW
Channel temperature	T_{ch}	125	°C
Storage temperature	T_{stg}	–55 to +125	°C

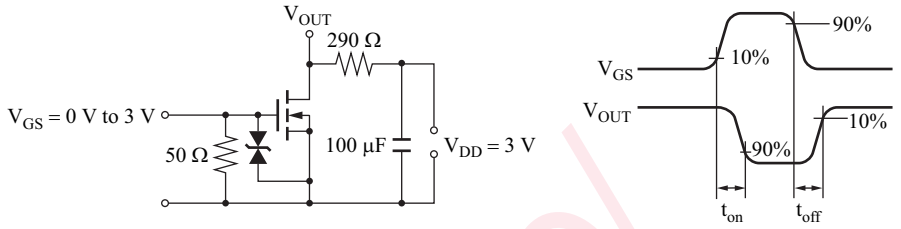
■ Electrical Characteristics $T_a = 25°C±3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-source surrender voltage	V_{DSS}	I_D = 10 µA, V_{GS} = 0	20			V
Drain-source cutoff current	I_{DSS}	V_{DS} = 10 V, V_{GS} = 0			1.0	µA
Gate-source cutoff current	I_{GSS}	V_{GS} = ±10 V, V_{DS} = 0			±10	µA
Gate threshold voltage	V_{TH}	I_D = 50 µA, V_{DS} = 5.0 V	0.4		1.3	V
Drain-source ON resistance	$R_{DS(on)}$	I_D = 1 mA, V_{GS} = 1.8 V		6	13	Ω
		I_D = 10 mA, V_{GS} = 2.5 V		4	6	
		I_D = 10 mA, V_{GS} = 4.0 V		3	4	
Forward transfer admittance	$\|Y_{fs}\|$	I_D = 10 mA, V_{DS} = 3 V,	20	55		mS
Short-circuit input capacitance (Common source)	C_{iss}	V_{DS} = 3 V, V_{GS} = 0, f = 1 MHz		10		pF
Short-circuit output capacitance (Common source)	C_{oss}			13		pF
Reverse transfer capacitance (Common source)	C_{rss}			5		pF
Turn-on time *	t_{on}	V_{DD} = 3 V, V_{GS} = 0 V to 3 V, I_D = 10 mA		250		ns
Turn-off time *	t_{off}	V_{DD} = 3 V, V_{GS} = 3 V to 0 V, I_D = 10 mA		480		ns

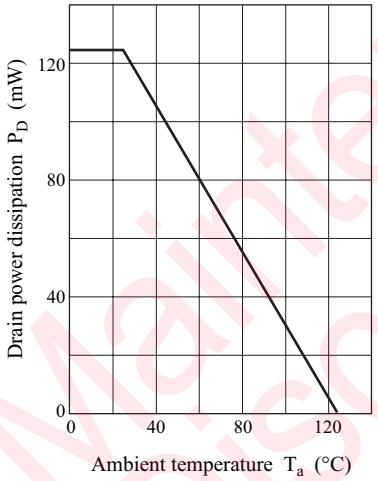
■ Electrical Characteristics (continued) $T_a = 25°C \pm 3°C$

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

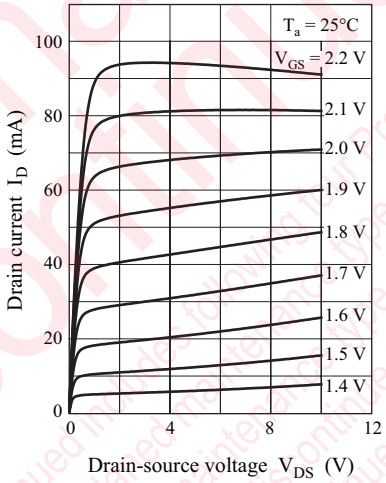
2. ∗ : t_{on} , t_{off} measurement circuit



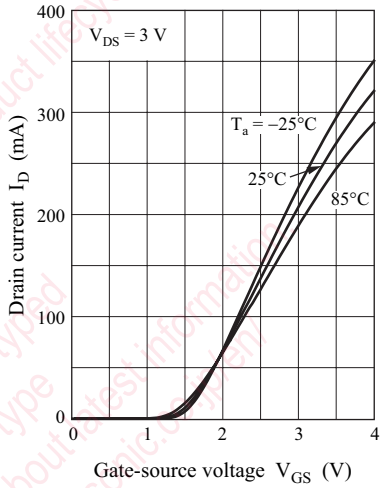
P_D — T_a



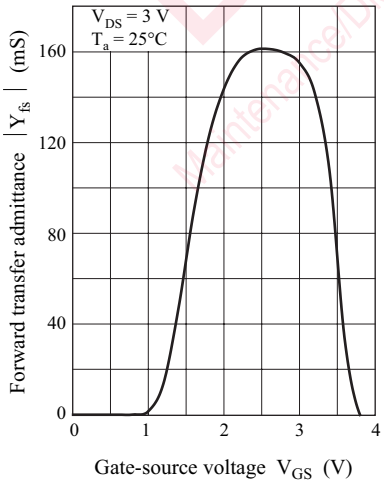
I_D — V_{DS}



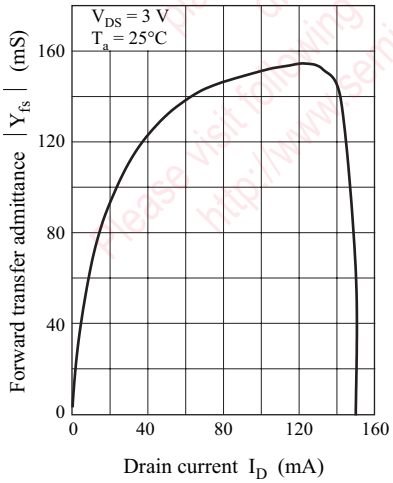
I_D — V_{GS}



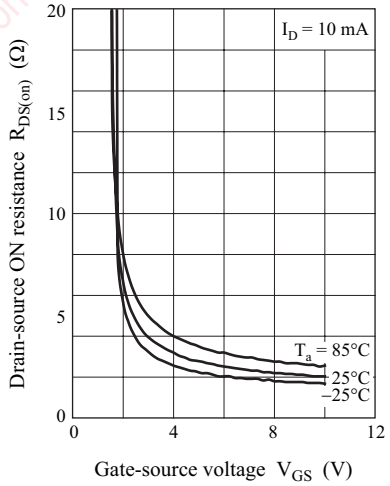
$|Y_{fs}|$ — V_{GS}



$|Y_{fs}|$ — I_D

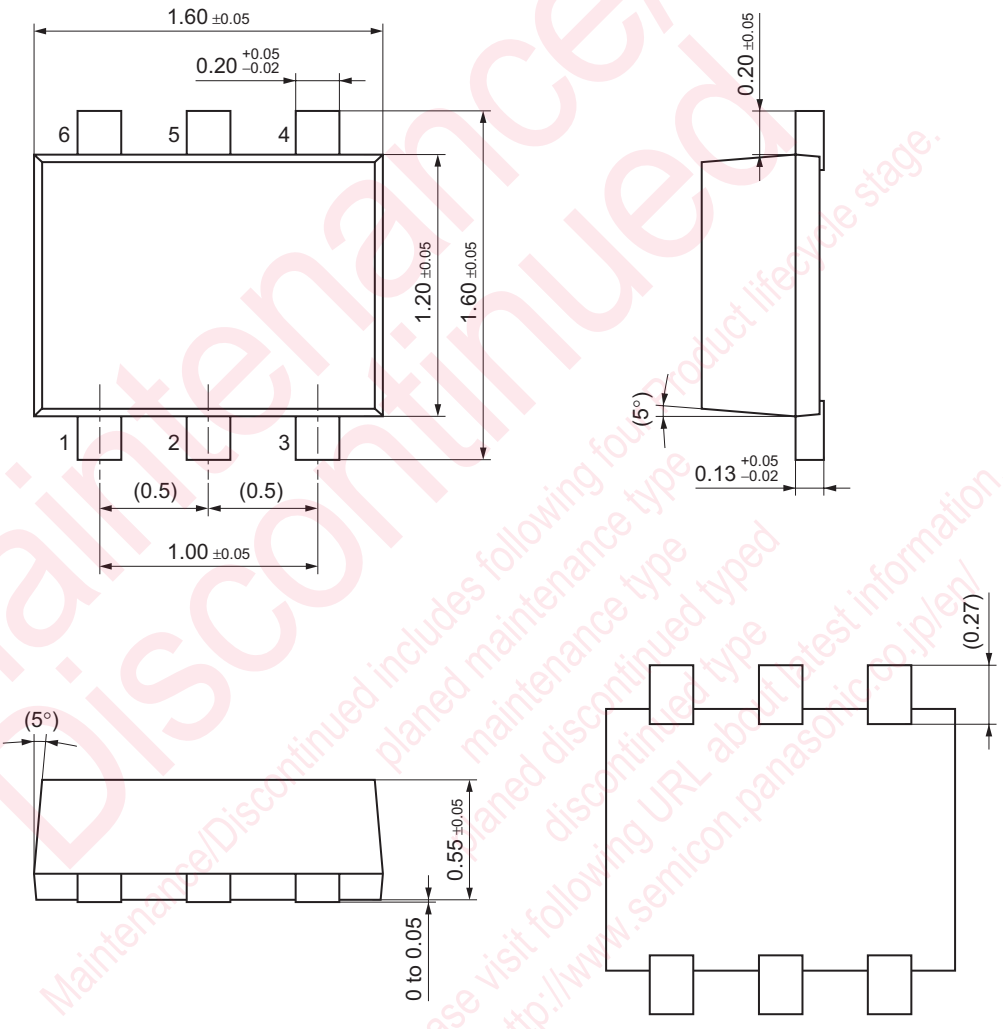


$R_{DS(on)}$ — V_{GS}



SSMini6-F2

Unit: mm



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