

Silicon N-channel MOSFET (Tr1)  
Silicon P-channel MOSFET (Tr2)

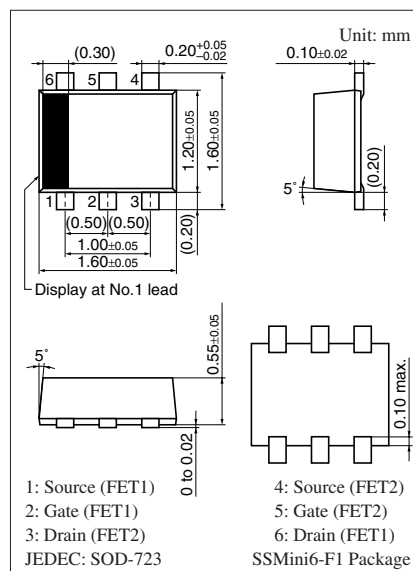
## ■ Features

- High-speed switching
- Gate protection diode built-in
- Two elements incorporated into one package  
(Each transistor is separated)
- Reduction of the mounting area and assembly cost by one half

- 2SJ0672 + 2SK3539

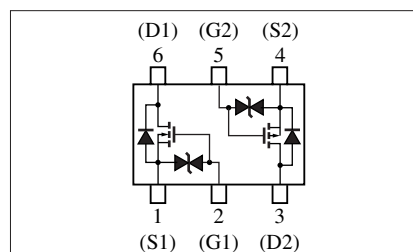
Parameter		Symbol	Rating	Unit
Tr1	Drain-source surrender voltage	$V_{DSS}$	50	V
	Gate-source voltage (Drain open)	$V_{GSO}$	$\pm 7$	V
	Drain current	$I_D$	100	mA
	Peak drain current	$I_{DP}$	200	mA
Tr2	Drain-source surrender voltage	$V_{DSS}$	-30	V
	Gate-source voltage (Drain open)	$V_{GSO}$	$\pm 7$	V
	Drain current	$I_D$	-100	mA
	Peak drain current	$I_{DP}$	-200	mA
Overall	Total power dissipation *	$P_T$	125	mW
	Junction temperature	$T_{ch}$	125	°C
	Storage temperature	$T_{stg}$	-55 to +125	°C

Note) \*: Measuring on substrate at 17 mm × 10 mm × 1 mm



Marking Symbol: 4T

## Internal Connection



■ Electrical Characteristics  $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

• Tr1

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-source surrender voltage	$V_{DSS}$	$I_D = 10\ \mu\text{A}$ , $V_{GS} = 0$	50			V
Drain-source cutoff current	$I_{DSS}$	$V_{DS} = 30\ \text{V}$ , $V_{GS} = 0$			1.0	$\mu\text{A}$
Gate-source cutoff current	$I_{GSS}$	$V_{GS} = \pm 7\ \text{V}$ , $V_{DS} = 0$			$\pm 10$	$\mu\text{A}$
Gate threshold voltage	$V_{th}$	$I_D = 1.0\ \mu\text{A}$ , $V_{DS} = 3.0\ \text{V}$	0.5	1.0	1.5	V
Drain-source ON resistance	$R_{DS(on)}$	$I_D = 10\ \text{mA}$ , $V_{GS} = 2.5\ \text{V}$		8	15	$\Omega$
		$I_D = 10\ \text{mA}$ , $V_{GS} = 4.0\ \text{V}$		6	12	
Forward transfer admittance	$ Y_{fs} $	$I_D = 10\ \text{mA}$ , $V_{DS} = 3.0\ \text{V}$	20	60		mS
Turn-on time *	$t_{on}$	$V_{DD} = 3\ \text{V}$ , $V_{GS} = 0\ \text{V}$ to $3\ \text{V}$ , $I_D = 10\ \text{mA}$		200		ns
Turn-off time *	$t_{off}$	$V_{DD} = 3\ \text{V}$ , $V_{GS} = 3\ \text{V}$ to $0\ \text{V}$ , $I_D = 10\ \text{mA}$		200		ns

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

2. \*: Refer to  $t_{on}$ ,  $t_{off}$  test circuit.

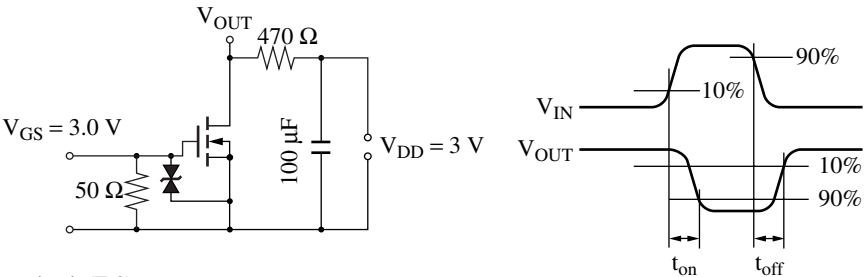
• Tr2

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-source surrender voltage	$V_{DSS}$	$I_D = -10\ \mu\text{A}$ , $V_{GS} = 0$	-30			V
Drain-source cutoff current	$I_{DSS}$	$V_{DS} = -20\ \text{V}$ , $V_{GS} = 0$			-1.0	$\mu\text{A}$
Gate-source cutoff current	$I_{GSS}$	$V_{GS} = \pm 7\ \text{V}$ , $V_{DS} = 0$			$\pm 10$	$\mu\text{A}$
Gate threshold voltage	$V_{th}$	$I_D = -1.0\ \mu\text{A}$ , $V_{DS} = -3.0\ \text{V}$	-0.5	-1.0	-1.5	V
Drain-source ON resistance	$R_{DS(on)}$	$I_D = -10\ \text{mA}$ , $V_{GS} = -2.5\ \text{V}$		25	45	$\Omega$
		$I_D = -10\ \text{mA}$ , $V_{GS} = -4.0\ \text{V}$		15	30	
Forward transfer admittance	$ Y_{fs} $	$I_D = -10\ \text{mA}$ , $V_{DS} = -3.0\ \text{V}$	20	35		mS
Turn-on time *	$t_{on}$	$V_{DD} = -3\ \text{V}$ , $V_{GS} = 0\ \text{V}$ to $-3\ \text{V}$ , $I_D = -10\ \text{mA}$		850		ns
Turn-off time *	$t_{off}$	$V_{DD} = -3\ \text{V}$ , $V_{GS} = -3\ \text{V}$ to $0\ \text{V}$ , $I_D = -10\ \text{mA}$		850		ns

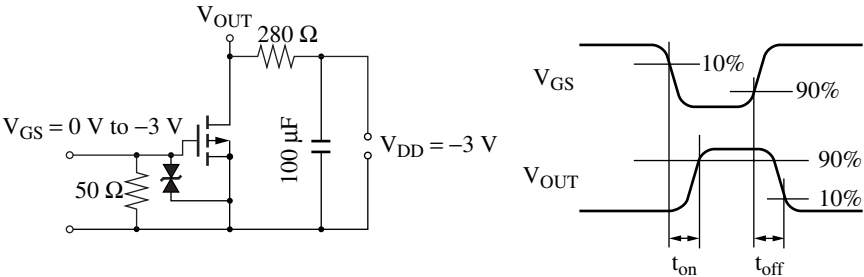
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. \*: Refer to  $t_{on}$ ,  $t_{off}$  test circuit.

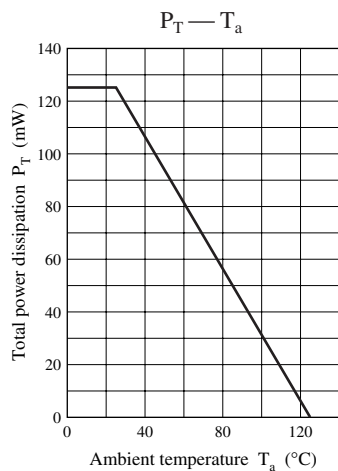
$t_{on}$ ,  $t_{off}$  test circuit (Tr1)



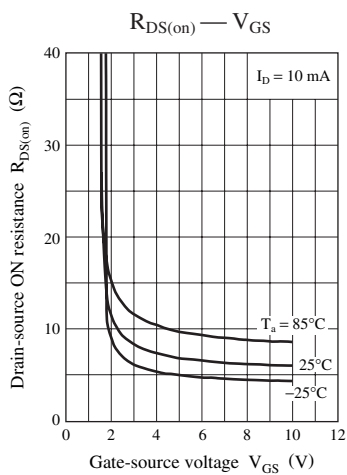
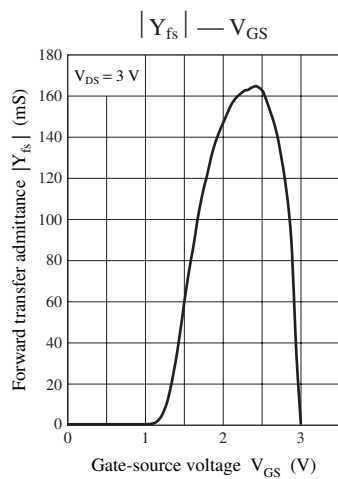
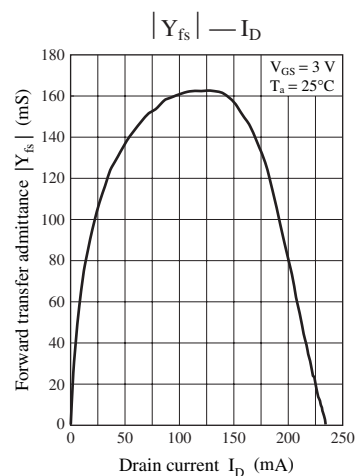
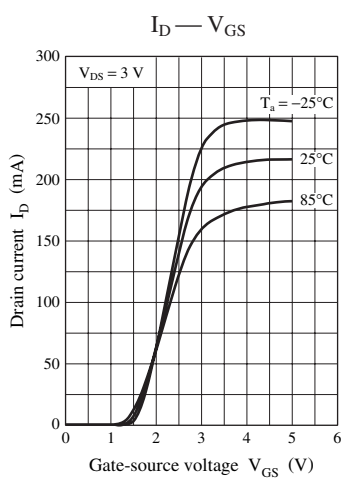
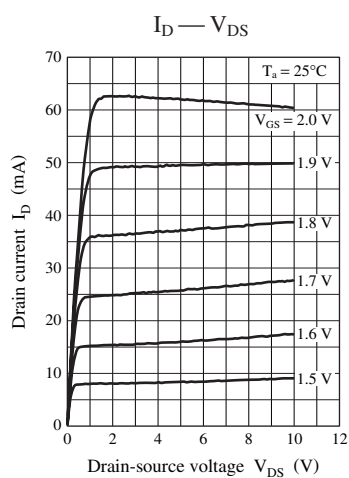
$t_{on}$ ,  $t_{off}$  test circuit (Tr2)



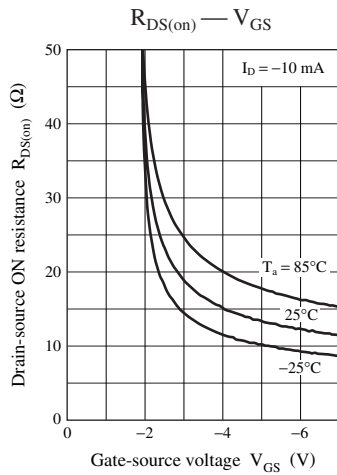
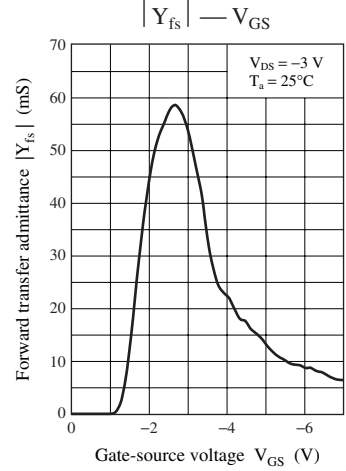
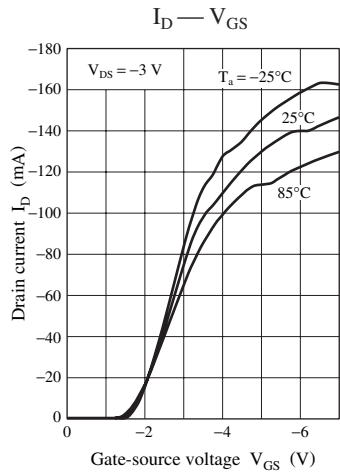
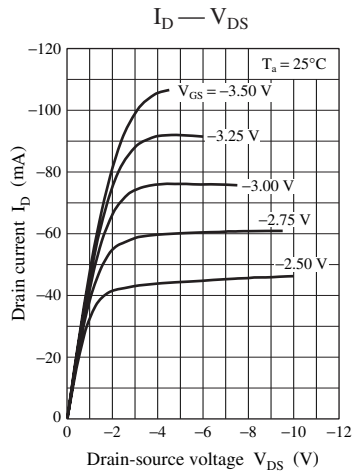
Common characteristics chart



Characteristics charts of Tr1



Characteristics charts of Tr2



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