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# 2SK1056, 2SK1057, 2SK1058

Silicon N-Channel MOS FET

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## Application

Low frequency power amplifier

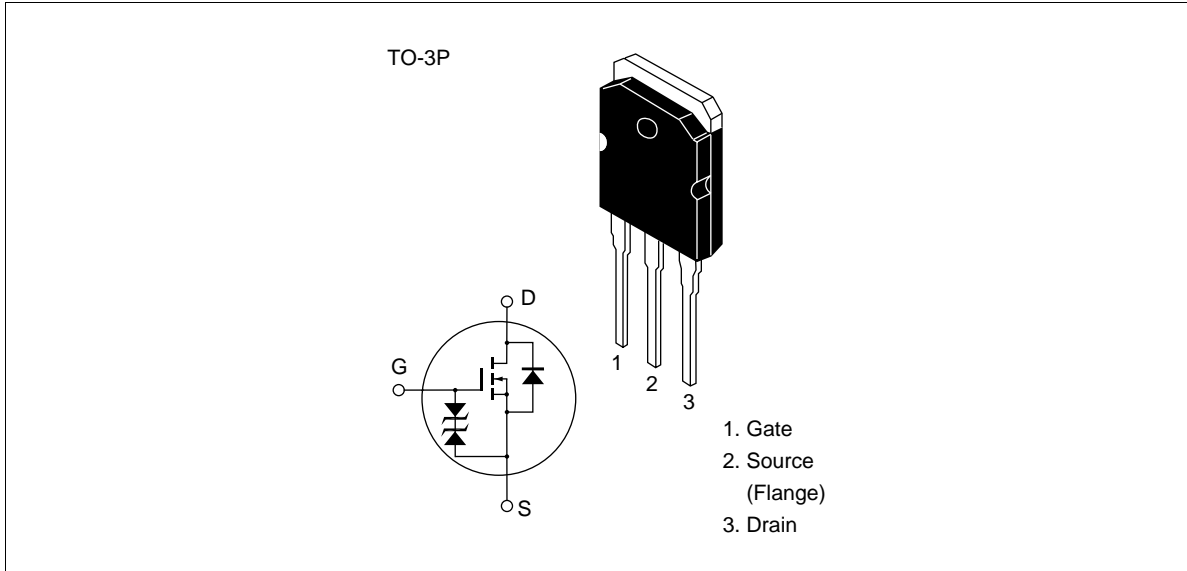
Complementary pair with 2SJ160, 2SJ161 and 2SJ162

## Features

- Good frequency characteristic
- High speed switching
- Wide area of safe operation
- Enhancement-mode
- Good complementary characteristics
- Equipped with gate protection diodes
- Suitable for audio power amplifier

## 2SK1056, 2SK1057, 2SK1058

### Outline



### Absolute Maximum Ratings (Ta = 25°C)

Item		Symbol	Ratings	Unit
Drain to source voltage	2SK1056	$V_{DSX}$	120	V
	2SK1057		140	
	2SK1058		160	
Gate to source voltage		$V_{GSS}$	±15	V
Drain current		$I_D$	7	A
Body to drain diode reverse drain current		$I_{DR}$	7	A
Channel dissipation		$P_{ch}^{*1}$	100	W
Channel temperature		$T_{ch}$	150	°C
Storage temperature		$T_{stg}$	-55 to +150	°C

Note: 1. Value at  $T_c = 25^\circ\text{C}$

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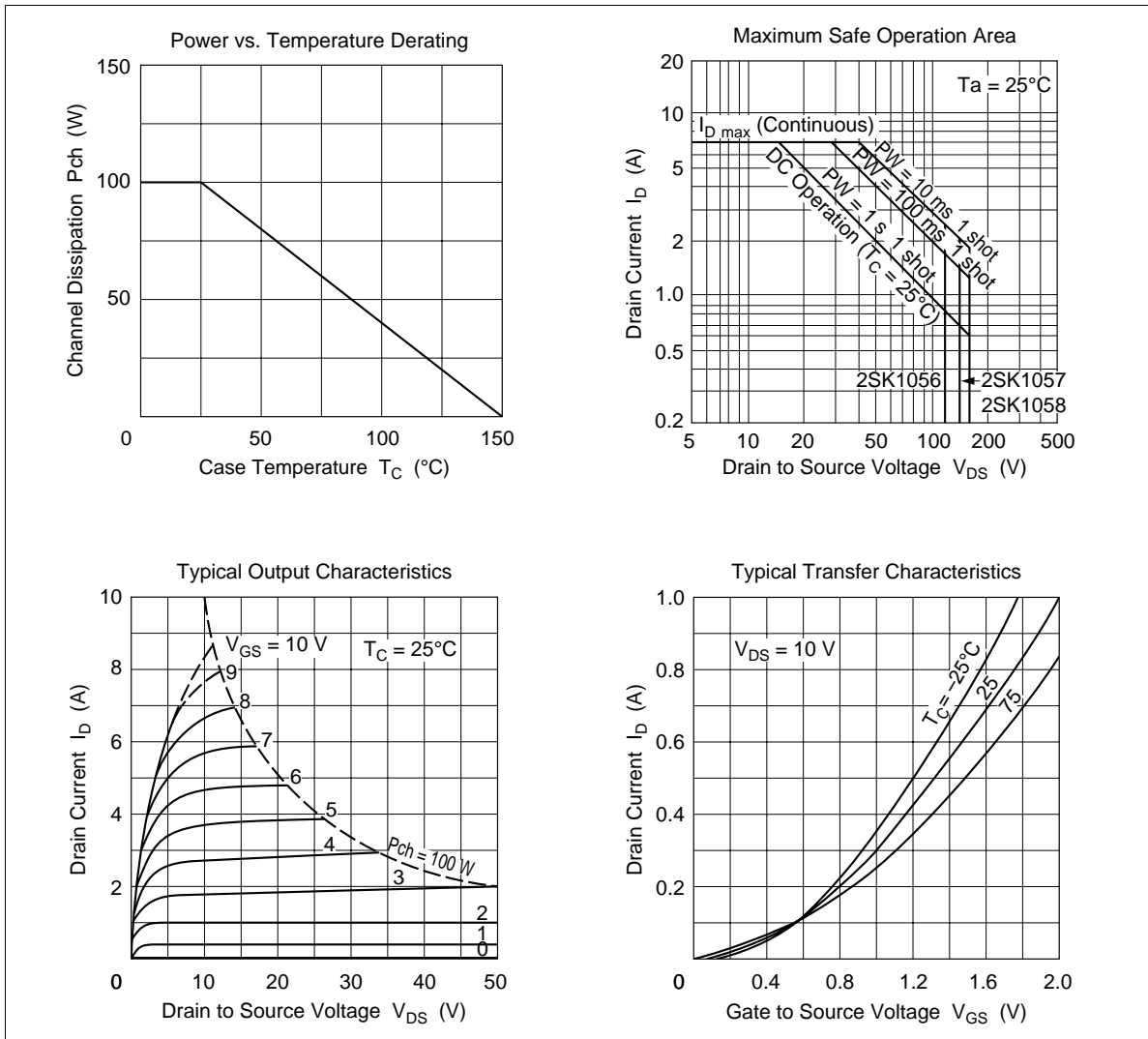
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### Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	2SK1056 $V_{(BR)DSX}$	120	—	—	V	$I_D = 10 \text{ mA}$ , $V_{GS} = -10 \text{ V}$
	2SK1057	140				
	2SK1058	160				
Gate to source breakdown voltage	$V_{(BR)GSS}$	$\pm 15$	—	—	V	$I_G = \pm 100 \mu\text{A}$ , $V_{DS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	0.15	—	1.45	V	$I_D = 100 \text{ mA}$ , $V_{DS} = 10 \text{ V}$
Drain to source saturation voltage	$V_{DS(sat)}$	—	—	12	V	$I_D = 7 \text{ A}$ , $V_{GD} = 0$ *1
Forward transfer admittance	$ y_{fs} $	0.7	1.0	1.4	S	$I_D = 3 \text{ A}$ , $V_{DS} = 10 \text{ V}$ *1
Input capacitance	$C_{iss}$	—	600	—	pF	$V_{GS} = -5 \text{ V}$ , $V_{DS} = 10 \text{ V}$ , $f = 1 \text{ MHz}$
Output capacitance	$C_{oss}$	—	350	—	pF	
Reverse transfer capacitance	$C_{rss}$	—	10	—	pF	
Turn-on time	$t_{on}$	—	180	—	ns	$V_{DD} = 20 \text{ V}$ , $I_D = 4 \text{ A}$ ,
Turn-off time	$t_{off}$	—	60	—	ns	

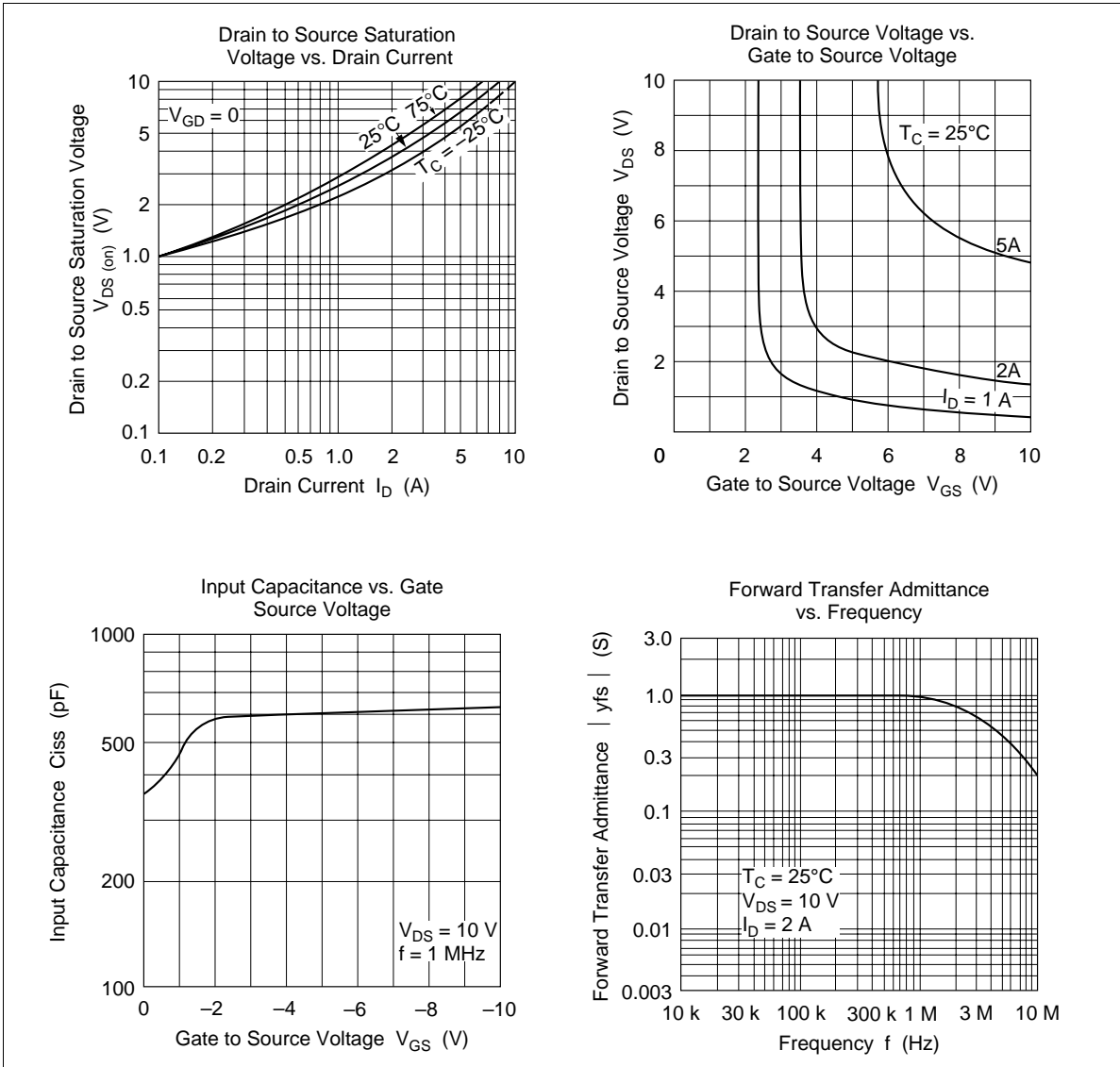
Note: 1. Pulse test

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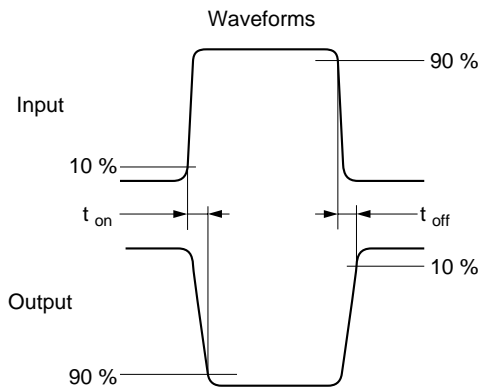
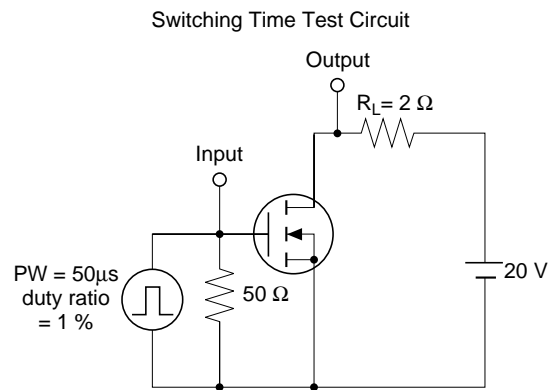
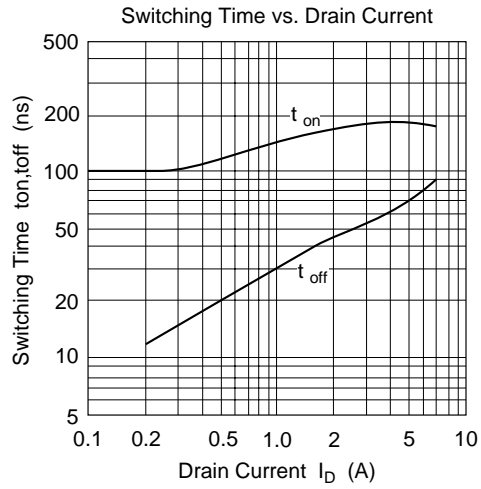


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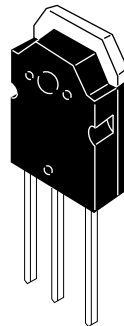
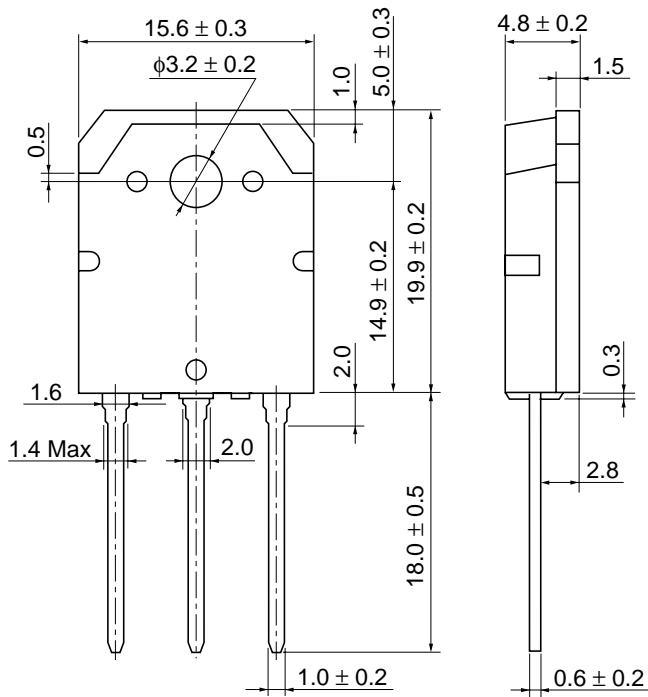
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## 2SK1056, 2SK1057, 2SK1058



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Hitachi Code	TO-3P
JEDEC	—
EIAJ	Conforms
Weight (reference value)	5.0 g

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