
2SK1056, 2SK1057, 2SK1058

Silicon N-Channel MOS FET

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Application

Low frequency power amplifier

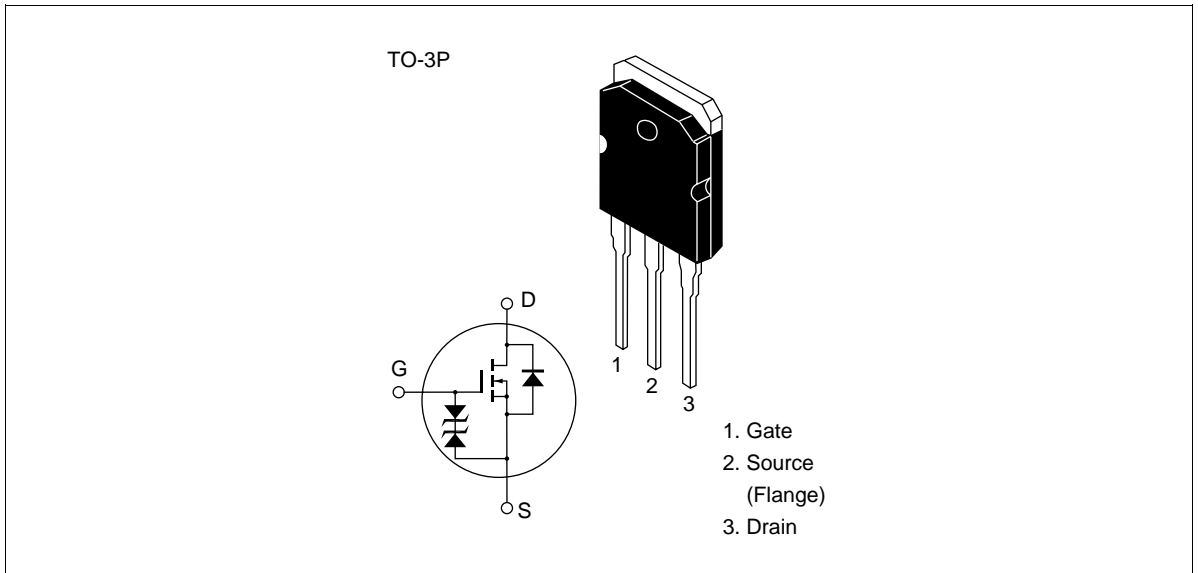
Complementary pair with 2SJ160, 2SJ161 and 2SJ162

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		Tch	150	°C
Storage temperature		Tstg	-55 to +150	°C

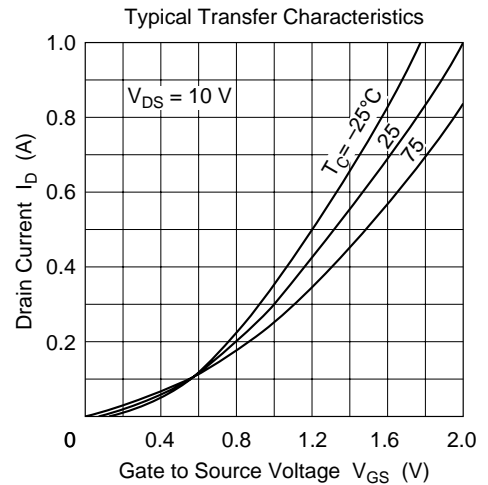
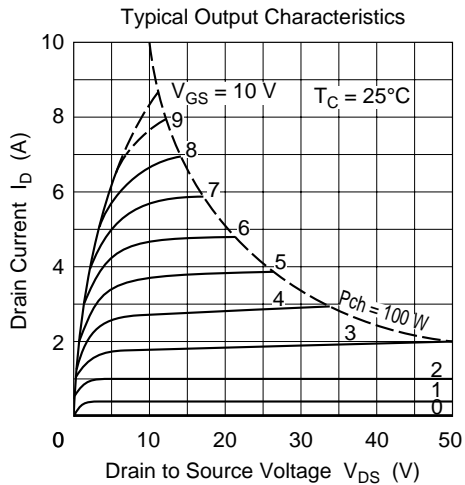
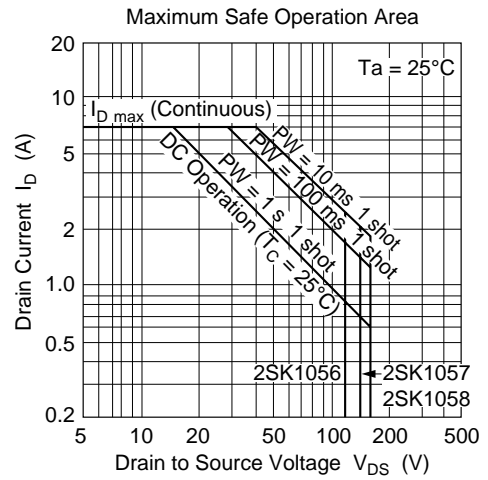
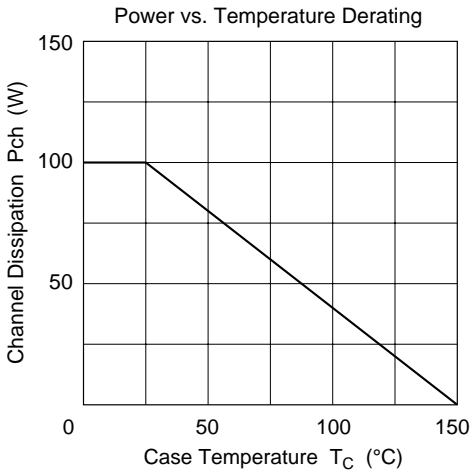
Note: 1. Value at $T_c = 25^\circ\text{C}$

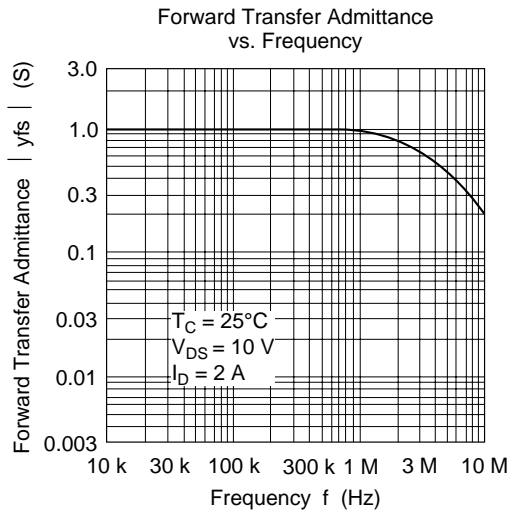
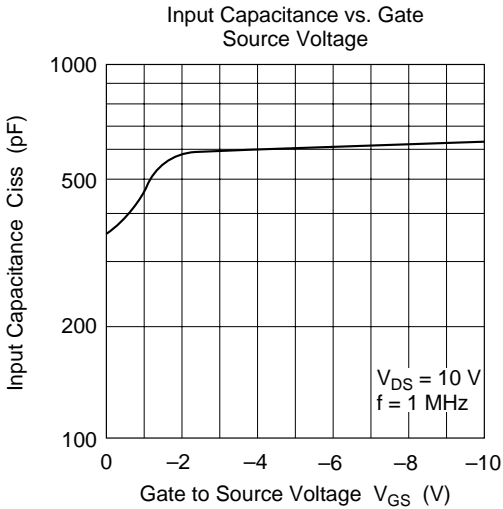
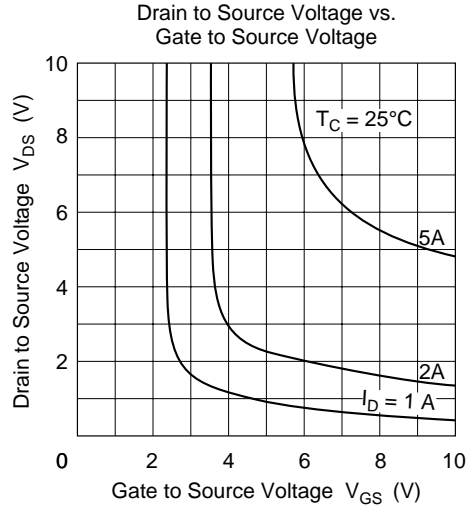
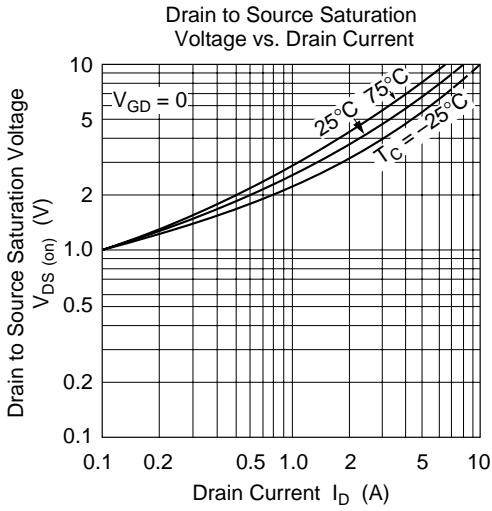
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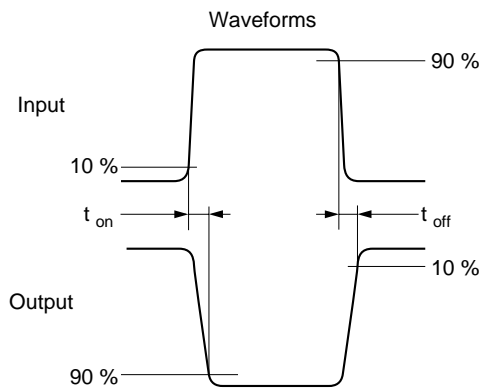
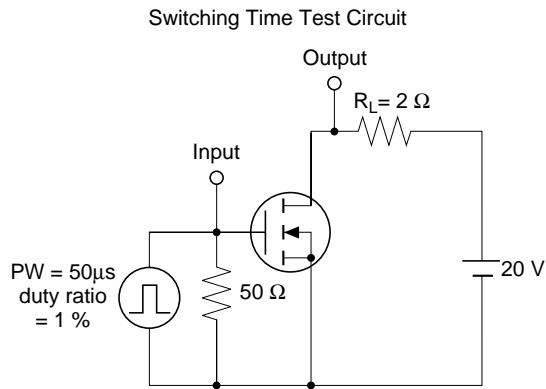
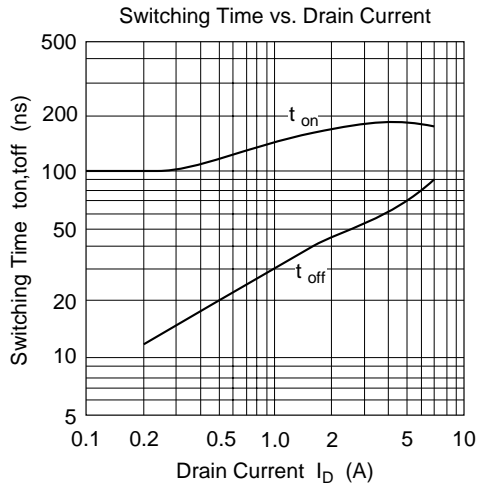
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Drain to source breakdown voltage	2SK1056 2SK1057 2SK1058	$V_{(BR)DSX}$	120 140 160	—	—	V $I_D = 10 \text{ mA}, V_{GS} = -10 \text{ V}$
Gate to source breakdown voltage	$V_{(BR)GSS}$	± 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	yfs	0.7	1.0	1.4	S	$I_D = 3 \text{ A}, V_{DS} = 10 \text{ V}^{*1}$
Input capacitance	Ciss	—	600	—	pF	$V_{GS} = -5 \text{ V}, V_{DS} = 10 \text{ V},$ $f = 1 \text{ MHz}$
Output capacitance	Coss	—	350	—	pF	
Reverse transfer capacitance	Crss	—	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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