

New Jersey Semi-Conductor Products, Inc.

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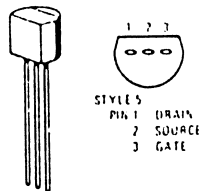
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2N5457 (SILICON)

2N5458

2N5459

Silicon N-channel junction field-effect transistors depletion mode (Type A) designed for general-purpose audio and switching applications.



(TO-92)

Drain and source may be
interchanged.

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	25	Vdc
Drain-Gate Voltage	V_{DG}	25	Vdc
Reverse Gate-Source Voltage	$V_{GS(r)}$	25	Vdc
Gate Current	I_G	10	mAdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$	$P_D^{(1)}$	310	mW
Derate above 25°C		2.82	mW/ $^\circ\text{C}$
Operating Junction Temperature	$T_J^{(2)}$	135	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}^{(2)}$	-65 to +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS (1. 25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Gate-Source Breakdown Voltage ($I_G = -10 \mu\text{Adc}$, $V_{DS} = 0$)	BV_{GSS}	25	—	—	Vdc
Gate Reverse Current ($V_{GS} = -15 \text{Vdc}$, $V_{DS} = 0$) ($V_{GS} = -15 \text{Vdc}$, $V_{DS} = 0$, $T_A = 100^\circ\text{C}$)	I_{GSS}	—	—	1.0 200	nAdc
Gate-Source Cutoff Voltage ($V_{DS} = 15 \text{Vdc}$, $I_D = 10 \text{nAdc}$)	$V_{GS(off)}$	0.5 1.0 2.0	—	6.0 7.0 8.0	Vdc
Gate-Source Voltage ($V_{DS} = 15 \text{Vdc}$, $I_D = 100 \mu\text{Adc}$) ($V_{DS} = 15 \text{Vdc}$, $I_D = 200 \mu\text{Adc}$) ($V_{DS} = 15 \text{Vdc}$, $I_D = 400 \mu\text{Adc}$)	V_{GS}	—	2.5 3.5 4.5	—	Vdc

ON CHARACTERISTICS

Zero-Gate-Voltage Drain Current (1) ($V_{DS} = 15 \text{Vdc}$, $V_{GS} = 0$)	I_{DSS}	1.0 2.0 4.0	3.0 6.0 9.0	5.0 9.0 16	mAdc
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DYNAMIC CHARACTERISTICS

Forward Transfer Admittance (1) ($V_{DS} = 15 \text{Vdc}$, $V_{GS} = 0$, $f = 1 \text{kHz}$)	$ y_{fs} $	1000 1500 2000	3000 4000 4500	5000 5500 6000	μmhos
Output Admittance (1) ($V_{DS} = 15 \text{Vdc}$, $V_{GS} = 0$, $f = 1 \text{kHz}$)	$ y_{os} $	—	10	50	μmhos
Input Capacitance ($V_{DS} = 15 \text{Vdc}$, $V_{GS} = 0$, $f = 1 \text{MHz}$)	C_{iss}	—	4.5	7.0	pF
Reverse Transfer Capacitance ($V_{DS} = 15 \text{Vdc}$, $V_{GS} = 0$, $f = 1 \text{MHz}$)	C_{rss}	—	1.5	3.0	pF



Quality Semi-Conductors