

2.8

125

357

1.8

556

*Device mounted on FR-4 PCB 1.6" X 1.6" X 0.06."

Derate above 25°C

Thermal Resistance, Junction to Case

Thermal Resistance, Junction to Ambient

R_{θJC}

 $R_{\theta JA}$

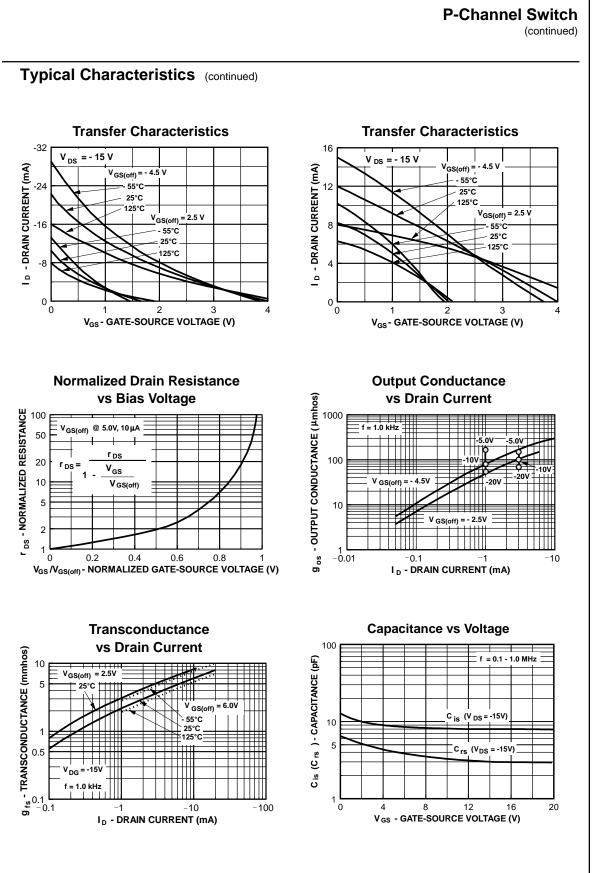
mW/°C

°C/W

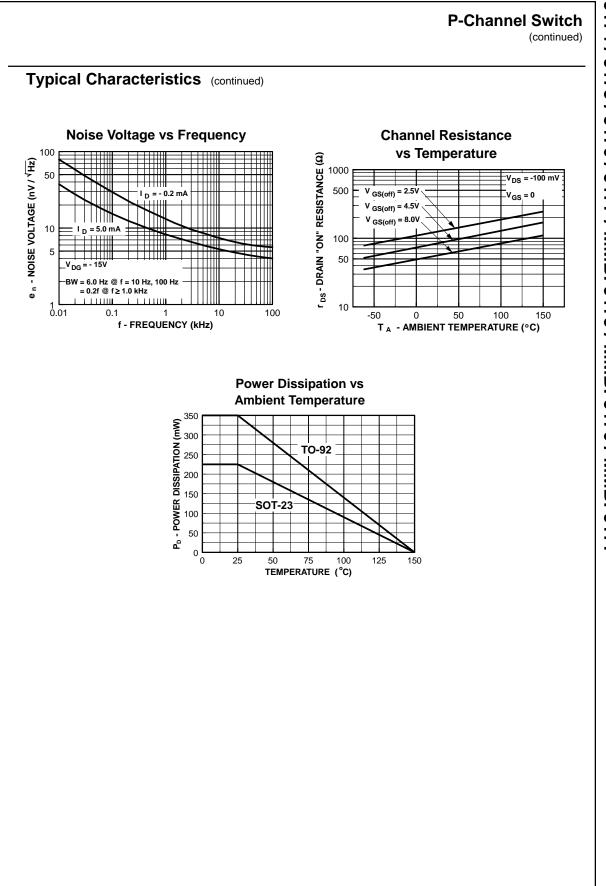
°C/W

P-Channel Switch (continued)

$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $		Parameter	Test Condition	S	Min	Max	Unit
$\frac{I_{GSS}}{V_{GS[off]}} = \frac{Gate Reverse Current}{Gate-Source Cutoff Voltage} = \frac{V_{GS} = 20 \text{ V}, V_{DS} = 0}{V_{DS} = -10 \text{ nA}} = \frac{11.0 \text{ n}}{J174} = \frac{1.0 \text{ n}}{J175} = \frac{11.0 \text{ n}}{J176} = \frac{11.0 \text{ n}}{J17$	$\frac{I_{GSS}}{V_{GS[off]}} = \frac{Gate Reverse Current}{Gate-Source Cutoff Voltage} = \frac{V_{GS} = 20 \text{ V}, V_{DS} = 0}{V_{DS} = -10 \text{ nA}} = \frac{11.0 \text{ n}}{J174} = \frac{1.0 \text{ n}}{J175} = \frac{11.0 \text{ n}}{J176} = \frac{11.0 \text{ n}}{J17$	$I_{GSS} = Gate Reverse Current} = V_{GS} = 20 V, V_{OS} = 0$ $I_{1.0} = 10 \text{ nA}$ $J_{177} = 10 \text{ nA}$ $J_$	OFF CHA	RACTERISTICS					
$I_{GSS} = Gate Reverse Current V_{GS(off)} = Gate-Source Cutoff Voltage V_{GS} = -15 V, I_D = -10 nA J177 3.0 6.0 V, V_{DS} = 0 J177 3.0 6.0 V, V_{DS} = -10 nA J177 3.0 6.0 V, V_{DS} = -10 nA J177 3.0 6.0 V, V_{DS} = -10 nA J177 0.8 2.5 V, V_{DS} = 0 J176 -2.0 -2.0 mm J177 -1.5 -20 mm J177 1.5 125 C J177 1.5 125 C J177 1.5 125 C J177 J 300 C *Pulse Test: Pulse Width ≤ 300 µs, Duty Cycle ≤ 2.0% Typical Characteristics Parameter Interactions V_{DS} = 0 V V_{D$	$I_{GSS} = Gate Reverse Current V_{GS(off)} = Gate-Source Cutoff Voltage V_{GS} = -15 V, I_D = -10 nA J177 3.0 6.0 V, V_{DS} = 0 J177 3.0 6.0 V, V_{DS} = -10 nA J177 3.0 6.0 V, V_{DS} = -10 nA J177 3.0 6.0 V, V_{DS} = -10 nA J177 0.8 2.5 V, V_{DS} = 0 J176 -2.0 -2.0 mm J177 -1.5 -20 mm J177 1.5 125 C J177 1.5 125 C J177 1.5 125 C J177 J 300 C *Pulse Test: Pulse Width ≤ 300 µs, Duty Cycle ≤ 2.0% Typical Characteristics Parameter Interactions V_{DS} = 0 V V_{D$	$I_{GSS} = Gate Reverse Current V_{GS(off)} = Gate-Source Cutoff Voltage V_{DS} = -15 V, I_D = -10 nA J174 5.0 10 V J J176 1.0 4.0 V J J177 0.8 2.5 V V J ON CHARACTERISTICS DON CHARACTERISTICS Ibss Zero-Gate Voltage Drain Current* V_DS = -15 V, I_{GS} = 0 J174 -20 -100 mm J J177 0.8 2.5 V V J ON CHARACTERISTICS Ibss Zero-Gate Voltage Drain Current* V_DS = -15 V, I_{GS} = 0 J174 -20 -100 mm J J177 -1.5 -2.0 -25 mm J J177 1.5 225 \Omega JJ177 1.5 225 \Omega J*Pulse Test: Pulse Width < 300 µs, Duty Cycle < 2.0%Typical CharacteristicsParameter InteractionsParameter Interaction$			$I_{G} = 1.0 \ \mu A, \ V_{DS} = 0$		30		V
$V_{GS(off)} = Gate-Source Cutoff Voltage = V_{DS} = -15 V, I_{D} = -10 nA = J174 = 5.0 = 10 0 N = J175 = 3.0 = 4.0 N = J175 = 3.0 = J174 = -20 = -100 m = J175 = -7.0 = -60 m = J176 = -2.0 = -25 m = J177 = -1.5 = -2.0 m =$	$V_{GS(off)} = Gate-Source Cutoff Voltage = V_{DS} = -15 V, I_{D} = -10 nA = J174 = 5.0 = 10 0 N = J175 = 3.0 = 4.0 N = J175 = 3.0 = J174 = -20 = -100 m = J175 = -7.0 = -60 m = J176 = -2.0 = -25 m = J177 = -1.5 = -2.0 m =$	$V_{GS(off)} = Gate-Source Cutoff Voltage = V_{DS} = -15 V, I_D = -10 nA = J174 = 5.0 = 10 0 V = J175 = 3.0 = 6.0 = V = J174 = 0.0 $						1.0	nA
$J_{177}^{3} 3.0 = 6.0 \\ J_{177}^{176} 1.0 = 4.0 \\ J_{177}^{176} 1.20 = 6.0 \\ J_{177}^{176} 1.20 = 6.0 \\ J_{177}^{176} 1.25 \\ J_{176}^{176} 2.20 = 25 \\ J_{177}^{176} 1.25 \\ J_{177}^{176} 2.20 \\ J_{177}^{177} 3.00 \\ J_{177}^{177} J$	$J_{177}^{3} 3.0 = 6.0 \\ J_{177}^{176} 1.0 = 4.0 \\ J_{177}^{176} 1.20 = 6.0 \\ J_{177}^{176} 1.20 = 6.0 \\ J_{177}^{176} 1.25 \\ J_{176}^{176} 2.20 = 25 \\ J_{177}^{176} 1.25 \\ J_{177}^{176} 2.20 \\ J_{177}^{177} 3.00 \\ J_{177}^{177} J$	$\frac{J175}{J176} = 3.0 & 6.0 & V \\ \hline J177 & 0.8 & 2.5 & V \\ \hline ON CHARACTERISTICS \\ \hline D_{SS} & Zero-Gate Voltage Drain Current* & V_{DS} = -15 V, I_{GS} = 0 & J174 & -20 & -100 & mm \\ \hline D_{SS} & Zero-Gate Voltage Drain Current* & V_{DS} = -15 V, I_{GS} = 0 & J174 & -20 & -100 & mm \\ \hline J175 & -2.0 & -25 & mm \\ J177 & -1.5 & -20 & mm \\ J177 & -2.5 & -2.5 & mm \\ J177$		Gate-Source Cutoff Voltage	V _{DS} = - 15 V, I _D = - 10 nA				V
$\frac{J177}{0.8} 2.5$ MON CHARACTERISTICS $\frac{J177}{I_{DSS}} 2 \text{ero-Gate Voltage Drain Current}^* V_{DS} = -15 \text{ V}, I_{SS} = 0 \qquad J174 - 20 & -100 \\ J175 & -7.0 & -60 \\ J175 & -2.0 & -25 \\ J177 & -1.5 & -20 \\ J177 & -1.5 & -20$	$\frac{J177}{0.8} 2.5$ MON CHARACTERISTICS $\frac{J177}{I_{DSS}} 2 \text{ero-Gate Voltage Drain Current}^* V_{DS} = -15 \text{ V}, I_{SS} = 0 \qquad J174 - 20 & -100 \\ J175 & -7.0 & -60 \\ J175 & -2.0 & -25 \\ J177 & -1.5 & -20 \\ J177 & -1.5 & -20$	$J177 0.8 2.5 V$ ON CHARACTERISTICS $I_{DSS} \qquad Zero-Gate Voltage Drain Current* \qquad V_{DS} = -15 V, I_{GS} = 0 \qquad J174 \qquad -20 \qquad -100 \qquad mm \\ J176 \qquad -2.0 \qquad -25 \qquad mm \\ J177 \qquad -1.5 \qquad -2.0 \qquad mm \\ J177 \qquad -2.5 \qquad -2.5 \qquad -2.5 \qquad mm \\ J177 \qquad -2.5 \qquad -2.5 \qquad -2.5 \qquad mm \\ J177 \qquad -2.5 \qquad -2.5 \qquad -2.5 \qquad mm \\ J177 \qquad -2.5 \qquad -2.5 \qquad -2.5 \qquad -2.5 \qquad mm \\ J177 \qquad -2.5 \qquad -2.$							V
$I_{DSS} = Zero-Gate Voltage Drain Current* V_{DS} = -15 V, I_{GS} = 0 \qquad J174 \qquad -20 \qquad -100 \qquad m \\ J175 \qquad -7.0 \qquad -60 \qquad m \\ J177 \qquad -2.0 \qquad -25 \qquad m \\ J177 \qquad -1.5 \qquad -2.0 \qquad m \\ J177 \qquad -1.5 \qquad -2.0 \qquad m \\ J177 \qquad J175 \qquad J25 \qquad c \\ J175 \qquad J176 \qquad 250 \qquad c \\ J177 \qquad J176 \qquad 250 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J25 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J25 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J25 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J25 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J25 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J125 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J125 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J125 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J125 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J176 \qquad J177 \qquad J125 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J176 \qquad J177 \qquad J176 \qquad J177 \qquad J177 \qquad J176 \qquad J177 \qquad $	$I_{DSS} = Zero-Gate Voltage Drain Current* V_{DS} = -15 V, I_{GS} = 0 \qquad J174 \qquad -20 \qquad -100 \qquad m \\ J175 \qquad -7.0 \qquad -60 \qquad m \\ J177 \qquad -2.0 \qquad -25 \qquad m \\ J177 \qquad -1.5 \qquad -2.0 \qquad m \\ J177 \qquad -1.5 \qquad -2.0 \qquad m \\ J177 \qquad J175 \qquad J25 \qquad c \\ J175 \qquad J176 \qquad 250 \qquad c \\ J177 \qquad J176 \qquad 250 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J25 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J25 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J25 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J25 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J25 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J125 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J125 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J125 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J125 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J176 \qquad J177 \qquad J125 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J176 \qquad J177 \qquad J176 \qquad J177 \qquad J177 \qquad J176 \qquad J177 \qquad $	$I_{DSS} = Zero-Gate Voltage Drain Current* V_{DS} = -15 V, I_{GS} = 0 J174 - 20 - 100 m/m, J175 - 7.0 - 60 m/m, J176 - 2.0 - 2.5 m/m, J177 - 1.5 - 2.0 m/m, J177 - 1.5 - 0.0 m/m, J177 - 0.0 m/m, J17$							V
$I_{DSS} = Zero-Gate Voltage Drain Current* V_{DS} = -15 V, I_{GS} = 0 \qquad J174 \qquad -20 \qquad -100 \qquad m \\ J175 \qquad -7.0 \qquad -60 \qquad m \\ J177 \qquad -2.0 \qquad -25 \qquad m \\ J177 \qquad -1.5 \qquad -2.0 \qquad m \\ J177 \qquad -1.5 \qquad -2.0 \qquad m \\ J177 \qquad J175 \qquad J25 \qquad c \\ J175 \qquad J176 \qquad 250 \qquad c \\ J177 \qquad J176 \qquad 250 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J25 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J25 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J25 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J25 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J25 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J125 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J125 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J125 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J125 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J176 \qquad J177 \qquad J125 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J176 \qquad J177 \qquad J176 \qquad J177 \qquad J177 \qquad J176 \qquad J177 \qquad $	$I_{DSS} = Zero-Gate Voltage Drain Current* V_{DS} = -15 V, I_{GS} = 0 \qquad J174 \qquad -20 \qquad -100 \qquad m \\ J175 \qquad -7.0 \qquad -60 \qquad m \\ J177 \qquad -2.0 \qquad -25 \qquad m \\ J177 \qquad -1.5 \qquad -2.0 \qquad m \\ J177 \qquad -1.5 \qquad -2.0 \qquad m \\ J177 \qquad J175 \qquad J25 \qquad c \\ J175 \qquad J176 \qquad 250 \qquad c \\ J177 \qquad J176 \qquad 250 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J25 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J25 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J25 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J25 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J25 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J125 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J125 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J125 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J125 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J176 \qquad J177 \qquad J125 \qquad c \\ J177 \qquad J176 \qquad J177 \qquad J176 \qquad J177 \qquad J176 \qquad J177 \qquad J177 \qquad J176 \qquad J177 \qquad $	$I_{DSS} = Zero-Gate Voltage Drain Current* V_{DS} = -15 V, I_{GS} = 0 J174 - 20 - 100 m/m, J175 - 7.0 - 60 m/m, J176 - 2.0 - 2.5 m/m, J177 - 1.5 - 2.0 m/m, J177 - 1.5 - 0.0 m/m, J177 - 0.0 m/m, J17$							
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$			$V_{DS} = -15 \text{ V}, I_{GS} = 0$	J174	- 20	- 100	mA
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$				J175	- 7.0	- 60	mA
$T_{DS(0n)} \qquad Drain-Source On Resistance \qquad V_{DS} \le 0.1 \text{ V}, V_{GS} = 0 \qquad J174 \qquad J175 \qquad 125 \qquad G \\ J176 \qquad J177 \qquad J176 \qquad 250 \qquad G \\ J177 \qquad J17$	$T_{DS(0n)} \qquad Drain-Source On Resistance \qquad V_{DS} \le 0.1 \text{ V}, V_{GS} = 0 \qquad J174 \qquad J175 \qquad 125 \qquad G \\ J176 \qquad J177 \qquad J176 \qquad 250 \qquad G \\ J177 \qquad J17$	$T_{DS(OT)} \qquad Drain-Source On Resistance \qquad V_{DS} \le 0.1 \text{ V}, \text{ V}_{GS} = 0 \qquad J174 \qquad B5 \qquad \Omega \\ J175 \qquad J176 \qquad 250 \qquad \Omega \\ J177 \qquad 300 \qquad \Omega \\ J177 \qquad 300 \qquad \Omega \\ Typical Characteristics \\ \hline Typical Characteristics \\ \hline U_{OS} = 0 \text{ V} \\ U_{OS} = 0 $							mA mA
*Pulse Test: Pulse Width $\leq 300 \ \mu s. \ Duty \ Cycle \leq 2.0\%$ Typical Characteristics Common Drain-Source $100 \ y \ s = 0 \ y \ y \ s = 10 \ s \ s \ s \ s \ s \ s \ s \ s \ s \ $	*Pulse Test: Pulse Width $\leq 300 \ \mu s. \ Duty \ Cycle \leq 2.0\%$ Typical Characteristics Common Drain-Source $100 \ y \ s = 0 \ y \ y \ s = 10 \ s \ s \ s \ s \ s \ s \ s \ s \ s \ $	*Pulse Test: Pulse Width $\leq 300 \ \mu s$, Duty Cycle $\leq 2.0\%$ Typical Characteristics Common Drain-Source $10^{-20} \ \sqrt{v_{0S} = 0 \ V_{0S} = 15V} \ v_$	r _{DS(OD)}	Drain-Source On Resistance	$V_{DS} \le 0.1 \text{ V}, \text{ V}_{GS} = 0$		- 1.0		Ω
*Pulse Test: Pulse Width $\leq 300 \ \mu$ s, Duty Cycle $\leq 2.0\%$ Typical Characteristics Common Drain-Source $V_{05} = 0 \ V_{05} = 10 \ V_{05} = 10 \ W_{05} $	*Pulse Test: Pulse Width $\leq 300 \ \mu$ s, Duty Cycle $\leq 2.0\%$ Typical Characteristics Common Drain-Source $V_{05} = 0 \ V_{05} = 10 \ V_{05} = 10 \ W_{05} $	*Pulse Test: Pulse Width $\leq 300 \ \mu$ s, Duty Cycle $\leq 2.0\%$ Typical Characteristics Common Drain-Source $V_{05} = 0 \ V_{05} = 10 \ U_{10} \ V_{05} = 0 \ V_{05} = 15V \ U_{10} \ U_{05} = 100 \ W_{05} = 15V \ U_{05} = 100 \ W_{05} = 100 \ W_{05$							Ω
*Pulse Test: Pulse Width $\leq 300 \ \mu$ s, Duty Cycle $\leq 2.0\%$ Typical Characteristics Common Drain-Source $V_{03}^{-10} \xrightarrow{10} \sqrt{100} 10$	*Pulse Test: Pulse Width $\leq 300 \ \mu$ s, Duty Cycle $\leq 2.0\%$ Typical Characteristics Common Drain-Source $V_{03}^{-10} \xrightarrow{10} \sqrt{100} 10$	*Pulse Test: Pulse Width $\leq 300 \ \mu$ s, Duty Cycle $\leq 2.0\%$ Typical Characteristics Common Drain-Source $V_{03} = 0 \ V_{03} = 0 \ V$							
NY -8 -2.0 V -1 -1 -1 50 -4 2.5 V 3.0 V 3.5 V -4 -7	NY -8 -2.0 V -1 -1 -1 50 -4 2.5 V 3.0 V 3.5 V -4 -7	-8 -4 2.0 V -1 -1 -1 -1 -1 -1 -50 50 -4 2.5 V 3.0 V 3.5 V -1		Common Drain-Source		neter In	teractio	ons	
N -8 -2.0 V -1 -1 -1 -1 50 -4 -2.5 V 3.0 V 3.5 V -1 -1 -1 -1 50 50 -4 -2.5 V 3.0 V 3.5 V -1 -	N -8 -2.0 V -1 -1 -1 -1 50 -4 -2.5 V 3.0 V 3.5 V -1 -1 -1 -1 50 50 -4 -2.5 V 3.0 V 3.5 V -1 -	Ng -8 2.0 V 10 50 -4 2.5 V 3.0 V 3.5 V Vase 0 PULSED 50 Vase 0 PULSED Vase 0 PULSED Vase 0 PULSED 50 Vase 0 PULSED 50			<u> </u>				-
NY -8 -2.0 V -1 -1 -1 -1 50 -4 -2.5 V 3.0 V 3.5 V -1 -1 -1 -1 50 50 Vgscore -1 -2.5 V 3.0 V 3.5 V -1	NY -8 -2.0 V -1 -1 -1 -1 50 -4 -2.5 V 3.0 V 3.5 V -1 -1 -1 -1 50 50 Vgscore -1 -2.5 V 3.0 V 3.5 V -1	NY -8 2.0 V -1 -1 -1 -1 50 -4 2.5 V 3.0 V 3.5 V -1 -1 -1 -10 mV -5		TA= 25°C					1,000 g
NY -8 -2.0 V -1 -1 -1 -1 50 -4 -2.5 V 3.0 V 3.5 V -1 -1 -1 -1 50 50 Vgscore -1 -2.5 V 3.0 V 3.5 V -1	NY -8 -2.0 V -1 -1 -1 -1 50 -4 -2.5 V 3.0 V 3.5 V -1 -1 -1 -1 50 50 Vgscore -1 -2.5 V 3.0 V 3.5 V -1	NY -8 2.0 V -1 -1 -1 -1 50 -4 2.5 V 3.0 V 3.5 V -1 -1 -1 -10 mV -5		TYP V _{GS(off)} = 4.5 V	(soyume) 50				1,000 g
NY -8 -2.0 V -1 -1 -1 -1 50 -4 -2.5 V 3.0 V 3.5 V -1 -1 -1 -1 50 50 Vgscore -1 -2.5 V 3.0 V 3.5 V -1	NY -8 -2.0 V -1 -1 -1 -1 50 -4 -2.5 V 3.0 V 3.5 V -1 -1 -1 -1 50 50 Vgscore -1 -2.5 V 3.0 V 3.5 V -1	NY -8 2.0 V -1 -1 -1 -1 50 -4 2.5 V 3.0 V 3.5 V -1 -1 -1 -10 mV -5		TYP V _{GS(off)} = 4.5 V 0.5 V		- r _{DS}			1,000 g 500 - UKAIN
$ \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c}$	$\begin{array}{c} & & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & & \\ &$	$ \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c}$		TYP V _{GS(off)} = 4.5 V 0.5 V V _{GS} = 0 V		r _{DS}		fs	1,000 500 - URAIN
$ \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \end{array}{}\\ \end{array} \\ -1 \\ \end{array} \\ -1 \\ \end{array} \\ -1 \\ \end{array} \\ -2 \\ \end{array} \\ -1 \\ \end{array} \\ -2 \\ \end{array} \\ -2 \\ -2 \\ \end{array} \\ -2 \\ -3 \\ \end{array} \\ -2 \\ -3 \\ -4 \\ -5 \\ \end{array} \\ -5 \\ \end{array} \\ -5 \\ \end{array} \\ \begin{array}{c} \begin{array}{c} \end{array}{}\\ \end{array}{}\\ \begin{array}{c} \end{array}{}\\ \end{array}{}\\ \begin{array}{c} \end{array}{}\\ \end{array}{}\\ \begin{array}{c} \end{array}{}\\ \end{array}{}\\ \end{array}{}\\ \end{array}{}\\ \begin{array}{c} \end{array}{}\\ \end{array}{}\\ \end{array}{}\\ \end{array}{}\\ \end{array}{}\\ \begin{array}{c} \end{array}{}\\ \end{array}{}\\ \end{array}{}\\ \end{array}{}\\ \end{array}{}\\ \end{array}{}\\ \end{array}{}\\ \begin{array}{c} \end{array}{} \end{array}{}\\ \end{array}{}\\ \end{array}{}\\ \end{array}{}\\ \end{array}{}\\ \end{array}{}\\ \end{array}{}\\$	$ \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \end{array}{}\\ \end{array} \\ -1 \\ \end{array} \\ -1 \\ \end{array} \\ -1 \\ \end{array} \\ -2 \\ -2$	$ \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \end{array}{}\\ \end{array} \\ -1 \end{array} \\ -1 \end{array} \\ -2 \end{array} \\ -1 \end{array} \\ -2 \end{array} \\ -2 \end{array} \\ -2 \end{array} \\ -2 \end{array} \\ -1 \end{array} \\ -2 \bigg) \\ -2 \bigg) \\ -2 \bigg) \\ -1 \bigg) \\ -2 \bigg) \bigg) \\ -2 \bigg) \bigg) \\ -2 \bigg) \bigg) \\ -2 \bigg) \bigg) \bigg) \\ -2 \bigg) \bigg) \bigg) \\ -2 \bigg) \bigg)$	CURRENT (mA)	TYP V _{GS(off)} = 4.5 V 0.5 V V _{GS} = 0 V 1.0 V				fs	1,000 g - URAIN 500 500 100 -
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c}$	$ \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \end{array}\\ \end{array}\\ \end{array}\\ \end{array} \\ \\ \begin{array}{c} \end{array}\\ \end{array}$ \begin{array}{c} \end{array}\\ \begin{array}{c} \end{array}\\ \begin{array}{c} \end{array}\\ \end{array} \begin{array}{c} \end{array}\\ \begin{array}{c} \end{array}\\ \begin{array}{c} \end{array}\\ \end{array} \begin{array}{c} \end{array} \begin{array}{c} \end{array} \begin{array}{c} \end{array} \begin{array}{c} \end{array} \begin{array}{c} \end{array} \begin{array}{c} \end{array} \end{array} \begin{array}{c} \end{array} \begin{array}{c} \end{array} \begin{array}{c} \end{array} \end{array} \begin{array}{c} \end{array} \begin{array}{c} \end{array} \end{array} \end{array} \begin{array}{c} \end{array} \end{array} \begin{array}{c} \end{array}	CURRENT (mA)	TYP V _{GS} (off)= 4.5 V V _{GS} = 0 V 0.5 V 1.0 V 1.5 V	sconductance (mmhos)	\geq			
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	CURRENT (mA)	TYP V _{GS} (off) = 4.5 V V _{GS} = 0 V 0.5 V 1.0 V 1.0 V 2.0 V 2.0 V			g SS , g is @ V _{DS} cs= 0 PULSED	fs = 15V,	
V _{DS} - DRAIN-SOURCE VOLTAGE (V) V _{GS (OFF)} - GATE CUTOFF VOLTAGE (V)	V _{DS} - DRAIN-SOURCE VOLTAGE (V) V _{GS (OFF)} - GATE CUTOFF VOLTAGE (V)	V _{DS} - DRAIN-SOURCE VOLTAGE (V) V _{GS (OFF)} - GATE CUTOFF VOLTAGE (V)	CURRENT (m.d)	TYP V _{GS} (off) = 4.5 V V _{GS} = 0 V 0.5 V 1.0 V 1.0 V 2.0 V 2.0 V	- TRANSCONDUCTANCE (mmhos)		Participant and the second sec	fs = 15V, cs = 0	50 50 ANCE
			0 1	TYP V _{GS} (off)= 4.5 V V _{GS} = 0 V 0.5 V 1.0 V 1.0 V 2.0 V 2.5 V 2.5 V 3.0 V	g		g g g g g g g g g g g g g g	fs = 15V, cs = 0 - 15V,	50 50 ANCE (0
			0 1 - DRAIN CURRENT (mA)	TYP V _{GS} (off)= 4.5 V V _{GS} = 0 V 0.5 V 1.0 V 1.0 V 2.0 V 2.5 V 2.5 V 3.0 V	-5 1 2		9 9 9 9 9 9 9 9 9 9 9 9 9 9	= 15V, cs = 0 - 15V,	50 50 ANCE (0
			0 1 - DRAIN CURRENT (mA)	TYP V _{GS} (off)= 4.5 V V _{GS} = 0 V 0.5 V 1.0 V 1.0 V 2.0 V 2.5 V 2.5 V 3.0 V	-5 1 2		9 9 9 9 9 9 9 9 9 9 9 9 9 9	= 15V, cs = 0 - 15V,	50 50 ANCE (0
			0 1 - DRAIN CURRENT (mA)	TYP V _{GS} (off)= 4.5 V V _{GS} = 0 V 0.5 V 1.0 V 1.0 V 2.0 V 2.5 V 2.5 V 3.0 V	-5 1 2		9 9 9 9 9 9 9 9 9 9 9 9 9 9	= 15V, cs = 0 - 15V,	50 50 ANCE (0
			0 1 - DRAIN CURRENT (mA)	TYP V _{GS} (off)= 4.5 V V _{GS} = 0 V 0.5 V 1.0 V 1.0 V 2.0 V 2.5 V 2.5 V 3.0 V	-5 1 2		9 9 9 9 9 9 9 9 9 9 9 9 9 9	= 15V, cs = 0 - 15V,	50 50 ANCE (0
			0 1 - DRAIN CURRENT (mA)	TYP V _{GS} (off)= 4.5 V V _{GS} = 0 V 0.5 V 1.0 V 1.0 V 2.0 V 2.5 V 2.5 V 3.0 V	-5 1 2		9 9 9 9 9 9 9 9 9 9 9 9 9 9	= 15V, cs = 0 - 15V,	50 50 ANCE (0
			0 1 - DRAIN CURRENT (mA)	TYP V _{GS} (off)= 4.5 V V _{GS} = 0 V 0.5 V 1.0 V 1.0 V 2.0 V 2.5 V 2.5 V 3.0 V	-5 1 2		9 9 9 9 9 9 9 9 9 9 9 9 9 9	= 15V, cs = 0 - 15V,	50 50 ANCE (0



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