

P1086, P1087

P-Channel Silicon Junction Field-Effect Transistor

- Choppers
- Analog Switches

Absolute maximum ratings at $T_A = 25^\circ\text{C}$

Reverse Gate Source & Reverse Gate Drain Voltage	30 V
Continuous Forward Gate Current	50 mA
Continuous Device Power Dissipation	360 mW
Power Derating	3.27 mW/ $^\circ\text{C}$

At 25°C free air temperature:

		P1086		P1087		Process PJ99	
		Min	Max	Min	Max	Unit	Test Conditions
Gate Source Breakdown Voltage	$V_{(\text{BR})\text{GSS}}$	30		30		V	$I_G = 1 \mu\text{A}, V_{\text{DS}} = 0\text{V}$
Gate Reverse Current	I_{GSS}		2		2	nA	$V_{\text{GS}} = 15\text{V}, V_{\text{DS}} = 0\text{V}$
Gate Source Cutoff Voltage	$V_{\text{GS}(\text{OFF})}$		10		5	V	$V_{\text{DS}} = -15\text{V}, I_D = -1 \mu\text{A}$
Saturation Drain Current (Pulsed)	I_{DSS}	-10		-5.0		mA	$V_{\text{DS}} = -20\text{V}, V_{\text{GS}} = 0\text{V}$
Drain Cutoff Current	$I_{\text{D}(\text{OFF})}$		-10		-10	nA	$V_{\text{DS}} = -15\text{V}, V_{\text{GS}} = 12\text{V}$ (P1086)
			-0.5		-0.5	μA	$V_{\text{GS}} = 7\text{V}$ (P1087)
Drain Reverse Current	I_{DGO}		2		2	nA	$V_{\text{DG}} = -15\text{V}, I_S = 0\text{A}$
			0.1		0.1	μA	$V_{\text{DG}} = -15\text{V}, I_S = 0\text{A}$
Drain Source ON Voltage	$V_{\text{DS}(\text{ON})}$		-0.5		-0.5	V	$V_{\text{GS}} = 0\text{V}, I_D = -6 \text{ mA}$ (P1086)
			-0.5		-0.5	V	$V_{\text{GS}} = 0\text{V}, I_D = -3 \text{ mA}$ (P1087)
Static Drain Source ON Resistance	$r_{\text{DS}(\text{ON})}$		75		150	Ω	$I_D = -1 \text{ mA}, V_{\text{GS}} = 0\text{V}$

Dynamic Electrical Characteristics

Drain Source ON Resistance	$r_{\text{ds}(\text{on})}$		75		150	Ω	$I_D = 0, V_{\text{GS}} = 0\text{V}$	$f = 1 \text{ kHz}$
Common Source Input Capacitance	C_{iss}		45		45	pF	$V_{\text{DS}} = -15\text{V}, V_{\text{GS}} = 0\text{V}$	$f = 1 \text{ kHz}$
Common Source Reverse Transfer Capacitance	C_{rss}		10		10	pF	$V_{\text{DS}} = 0\text{V}, V_{\text{GS}} = 12\text{V}$ (P1086)	$f = 1 \text{ MHz}$
			10		10	pF	$V_{\text{DS}} = 0\text{V}, V_{\text{GS}} = 7\text{V}$ (P1087)	

Switching Characteristics

Turn ON Delay Time	$t_{\text{d}(\text{on})}$		15		15	ns	$V_{\text{DD}} = -6\text{V}, V_{\text{GS}(\text{ON})} = 0\text{V}$ P1086	P1087
Rise Time	t_r		20		75	ns		
Turn OFF Delay Time	$t_{\text{d}(\text{off})}$		15		25	ns		
Fall Time	t_f		50		100	ns		
							$V_{\text{GS}(\text{OFF})}$	12
							$V_{\text{D}(\text{ON})}$	-6
							R_L	910
							V	1.8K
							MA	Ω

TO-226AA Package

Dimensions in Inches (mm)

Pin Configuration

1 Source, 2 Drain, 3 Gate

Surface Mount

SMPP1086, SMPP1087

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