

P-CHANNEL MOSFET
 Qualified per MIL-PRF-19500/564

DEVICES

2N6849

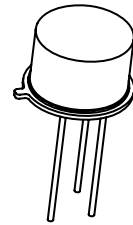
LEVELS

**JAN
 JANTX
 JANTXV**

ABSOLUTE MAXIMUM RATINGS ($T_C = +25^\circ\text{C}$ unless otherwise noted)

Parameters / Test Conditions	Symbol	Value	Unit
Drain – Source Voltage	V_{DS}	-100	Vdc
Gate – Source Voltage	V_{GS}	± 20	Vdc
Continuous Drain Current $T_C = +25^\circ\text{C}$	I_{D1}	-6.5	Adc
Continuous Drain Current $T_C = +100^\circ\text{C}$	I_{D2}	-4.1	Adc
Max. Power Dissipation	P_{tl}	25 ⁽¹⁾	W
Drain to Source On State Resistance	$R_{ds(on)}$	0.3 ⁽²⁾	Ω
Operating & Storage Temperature	T_{op}, T_{stg}	-55 to +150	$^\circ\text{C}$

Note: (1) Derated Linearly by 0.2 W/ $^\circ\text{C}$ for $T_C > +25^\circ\text{C}$
 (2) $V_{GS} = -10\text{Vdc}$, $I_D = -4.1\text{A}$



TO-205AF
 (formerly TO-39)

ELECTRICAL CHARACTERISTICS ($T_A = +25^\circ\text{C}$, unless otherwise noted)

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
Drain-Source Breakdown Voltage $V_{GS} = 0\text{V}$, $I_D = -1\text{mAdc}$	$V_{(BR)DSS}$	-100		Vdc
Gate-Source Voltage (Threshold) $V_{DS} \geq V_{GS}$, $I_D = -0.25\text{mA}$ $V_{DS} \geq V_{GS}$, $I_D = -0.25\text{mA}$, $T_j = +125^\circ\text{C}$ $V_{DS} \geq V_{GS}$, $I_D = -0.25\text{mA}$, $T_j = -55^\circ\text{C}$	$V_{GS(th)1}$ $V_{GS(th)2}$ $V_{GS(th)3}$	-2.0 -1.0 -5.0	-4.0	Vdc
Gate Current $V_{GS} = \pm 20\text{V}$, $V_{DS} = 0\text{V}$ $V_{GS} = \pm 20\text{V}$, $V_{DS} = 0\text{V}$, $T_j = +125^\circ\text{C}$	I_{GSS1} I_{GSS2}		± 100 ± 200	nA dc
Drain Current $V_{GS} = 0\text{V}$, $V_{DS} = -80\text{V}$ $V_{GS} = 0\text{V}$, $V_{DS} = -80\text{V}$, $T_j = +125^\circ\text{C}$	I_{DSS1} I_{DSS2}		-25 -0.25	$\mu\text{A dc}$ mA dc
Static Drain-Source On-State Resistance $V_{GS} = -10\text{V}$, $I_D = -4.1\text{A}$ pulsed $V_{GS} = -10\text{V}$, $I_D = -6.5\text{A}$ pulsed $T_j = -125^\circ\text{C}$ $V_{GS} = -10\text{V}$, $I_D = -4.1\text{A}$ pulsed	$r_{DS(on)1}$ $r_{DS(on)2}$ $r_{DS(on)3}$		0.3 0.32 0.54	Ω Ω Ω
Diode Forward Voltage $V_{GS} = 0\text{V}$, $I_D = -6.5\text{A}$ pulsed	V_{SD}		-4.3	Vdc



TECHNICAL DATA SHEET

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 Website: <http://www.microsemi.com>

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DYNAMIC CHARACTERISTICS

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
Gate Charge:				
On-State Gate Charge	$Q_{g(on)}$		34.8	nC
Gate to Source Charge	Q_{gs}		6.8	
Gate to Drain Charge	Q_{gd}		23.1	
$V_{GS} = -10V, I_D = -6.5A$ $V_{DS} = -50V$				

SWITCHING CHARACTERISTICS

Parameters / Test Conditions	Symbol	Min.	Max.	Unit
Switching time tests:				
Turn-on delay time	$t_{d(on)}$		60	
Rinse time	t_r		140	ns
Turn-off delay time	$t_{d(off)}$		140	
Fall time	t_f		140	
$I_D = -6.5A, V_{GS} = -10Vdc,$ Gate drive impedance = $7.5\Omega,$ $V_{DD} = -40Vdc$				
Diode Reverse Recovery Time	t_{rr}		250	ns
$di/dt \leq -100A/\mu s, V_{DD} \leq -50V,$ $I_F = -6.5A$				