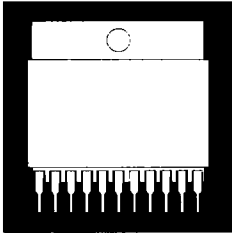


## POWER MOSFETS IN 11-PIN INDUSTRIAL SIP PACKAGE



### Complementary N-Channel and P-Channel Power MOSFETs In SIP Package

#### FEATURES

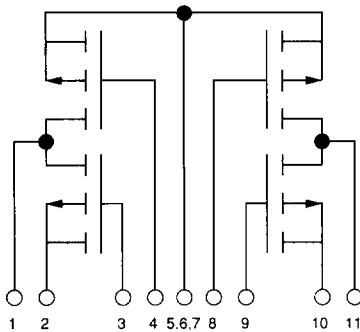
- Low  $R_{DS(on)}$
- Fast Switching
- Small SIP Package
- "H" Bridge Configuration

#### DESCRIPTION

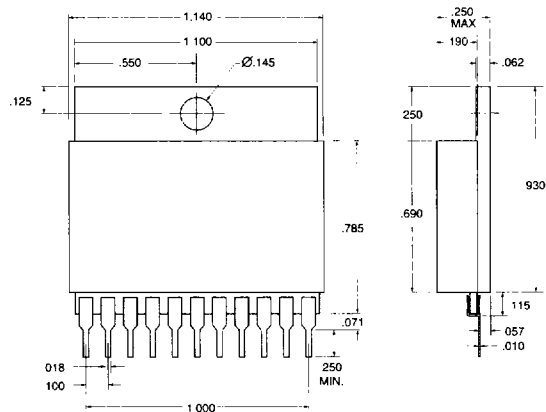
This series of industrial packaged products features the latest advanced MOSFET and packaging technology. Ideally suited for harsh industrial environments where small size, high performance and reliability are required. Typical applications include motor control, inverters, choppers, amplifiers and high energy pulse circuits.

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#### SCHEMATIC



#### MECHANICAL OUTLINE



FOR FURTHER INFORMATION, CONTACT FACTORY DIRECT OR YOUR LOCAL SALES REPRESENTATIVE.  
This document contains information on a new product. Specifications and information herein are subject to change without notice.

**ELECTRICAL CHARACTERISTICS:** T = 25° unless otherwise noted.

Characteristic	Symbol	P-Channel				Units	
		6421SP6		6422SP6			
		Min.	Max.	Min.	Max.		
Drain-Source Breakdown Voltage ( $V_{GS} = 0, I_D = 0.25mA$ )	$V_{(BR)DSS}$	50	-	100	-	$V_{oc}$	
Zero Gate Voltage Drain Current ( $V_{DS} = \text{Rated } V_{DSS}, V_{GS} = 0$ ) ( $V_{DS} = \text{Rated } V_{DSS}, V_{GS} = 0, T_J = 85^\circ C$ )	$I_{DSS}$	-	250 1000	-	250 1000	$\mu A$	
Gate-Body Leakage Current, Forward ( $V_{GSF} = \pm 20 V, V_{DS} = 0$ )	$I_{GSSF}$	500	500	500	500	nA	
Gate Threshold Voltage ( $V_{DS} = V_{GS}, I_D = 250\mu A$ )	$V_{GS(th)}$	2.0	4.0	2.0	4.0	V	
Static Drain-Source-On-Resistance ( $V_{GS} = 10V_{dc}, I_D = 3.5A_{dc}$ )	$r_{DS(on)}$	-	.60	-	.60	$\Omega$	
Drain-Source-On-Voltage ( $V_{GS} = 10V, I_D = 3.5A, T_C = 85^\circ C$ )	$V_{DS(on)}$	-	3.5	-	3.5	V	
Forward Transconductance ( $V_{DS} = 10V, I_D = 3.5A$ )	$g_{FS}$	.9	-	.9	-	mhos	
Input Capacitance	$(V_{DS} = 25V,$ $V_{GS} = 0,$ $f = 1MHz)$	$C_{iss}$	-	450	-	450	pF
Output Capacitance		$C_{oss}$	-	350	-	350	pF
Reverse Transfer Capacitance		$C_{rss}$	-	100	-	100	pF
Turn-On Delay Time ( $V_{DD} = 25V, I_D = 5A$ )		$t_{d(on)}$	-	50	-	50	ns
Turn-Off Delay Time ( $V_{DD} = 25V, I_D = 5A$ )	$t_{d(off)}$	-	100	-	100	ns	
Source Drain Diode Forward On Voltage $I_L = I_S$	$V_{SD}$	-	6.3	-	6.3	V	

**ELECTRICAL CHARACTERISTICS:** T = 25° unless otherwise noted.

Characteristic	Symbol	N-Channel				Units	
		6421SP6		6422SP6			
		Min.	Max.	Min.	Max.		
Drain-Source Breakdown Voltage ( $V_{GS} = 0, I_D = 0.25mA$ )	$V_{(BR)DSS}$	50	-	100	-	$V_{oc}$	
Zero Gate Voltage Drain Current ( $V_{DS} = \text{Rated } V_{DSS}, V_{GS} = 0$ ) ( $V_{DS} = \text{Rated } V_{DSS}, V_{GS} = 0, T_J = 85^\circ C$ )	$I_{DSS}$	-	250 1000	-	250 1000	$\mu A$	
Gate-Body Leakage Current, Forward ( $V_{GSF} = \pm 20 V, V_{DS} = 0$ )	$I_{GSSF}$	500	500	500	500	nA	
Gate Threshold Voltage ( $V_{DS} = V_{GS}, I_D = 250\mu A, T_J = 85^\circ C$ )	$V_{GS(th)}$	2.0	4.0	2.0	4.0	V	
Static Drain-Source-On-Resistance ( $V_{GS} = 10V_{dc}, I_D = 3.5A_{dc}$ )	$r_{DS(on)}$	-	.27	-	.27	$\Omega$	
Drain-Source-On-Voltage ( $V_{GS} = 10V, I_D = 3.5A, T_C = 85^\circ C$ )	$V_{DS(on)}$	-	1.9	-	1.9	V	
Forward Transconductance ( $V_{DS} = 10V, I_D = 3.5A$ )	$g_{FS}$	2.7	-	2.7	-	mhos	
Input Capacitance	$(V_{DS} = 25V,$ $V_{GS} = 0,$ $f = 1MHz)$	$C_{iss}$	600	-	600	-	pF
Output Capacitance		$C_{oss}$	400	-	400	-	pF
Reverse Transfer Capacitance		$C_{rss}$	100	-	100	-	pF
Turn-On Delay Time ( $V_{DD} = 25V, I_D = 3.5A$ )		$t_{d(on)}$	40	40	-	40	ns
Turn-Off Delay Time ( $V_{DD} = 25V, I_D = 3.5A$ )	$t_{d(off)}$	-	100	-	100	ns	
Source Drain Diode Forward On Voltage $I_L = 5A$	$V_{SD}$	-	2.5	-	2.5	V	

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