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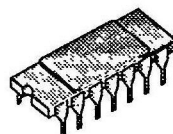
VQ1006 SERIES

N-Channel Enhancement-Mode MOS Transistor Arrays

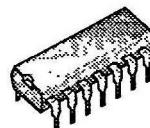
PRODUCT SUMMARY

PART NUMBER	$V_{(BR)DSS}$ (V)	$r_{DS(ON)}$ (Ω)	I_D (A)	PACKAGE
VQ1006J	90	4.5	0.40	Plastic
VQ1006P	90	4.5	0.40	Side Braze

14-PIN DIP
SIDE BRAZE

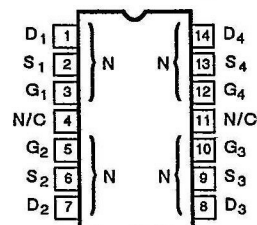


14-PIN PLASTIC



TOP VIEW

Dual-In-Line Package



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

PARAMETERS/TEST CONDITIONS		SYMBOL	VQ1006J	VQ1006P	UNITS
Drain-Source Voltage		V _{DS}	90	90	V
Gate-Source Voltage		V _{GS}	±30	±20	
Continuous Drain Current	T _A = 25°C	I _D	0.40	0.40	A
	T _A = 100°C		0.23	0.23	
Pulsed Drain Current ¹		I _{DM}	±2	±2	
Power Dissipation – Single	T _A = 25°C	P _D	1.3	1.3	
	T _A = 100°C		0.52	0.52	
Power Dissipation – Quad	T _A = 25°C		2	2	
	T _A = 100°C		0.8	0.8	
Operating Junction and Storage Temperature		T _J , T _{stg}	-55 to 150		°C
Lead Temperature (1/16" from case for 10 seconds)		T _L	300		

THERMAL RESISTANCE

THERMAL RESISTANCE	SYMBOL	VQ1006J	VQ1006P	UNITS
Junction-to-Ambient - Single	R_{thJA}	96.2	96.2	$^\circ\text{C/W}$
Junction-to-Ambient - Quad		62.5	62.5	

VQ1006 SERIES

ELECTRICAL CHARACTERISTICS				LIMITS		
PARAMETER	SYMBOL	TEST CONDITIONS	VQ1006			UNIT
			TYP ²	MIN	MAX	
STATIC						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0 V, I _D = 10 μA	120	90		V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 1 mA	1.6	0.8	2.5	
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V V _{GS} = ±15 V T _J = 125°C	±1 ±5		±100 ±500	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 90 V V _{GS} = 0 V V _{DS} = 72 V, T _J = 125°C	0.03 0.3		1 500	μA
On-State Drain Current ³	I _{D(ON)}	V _{DS} = 10 V, V _{GS} = 10 V	1.8	1.5		A
Drain-Source On-Resistance ³	r _{DS(ON)}	V _{GS} = 5 V, I _D = 0.3 A	4.7		5	Ω
		V _{GS} = 10 V I _D = 1 A	4.1		4.5	
		⁴ T _J = 125°C	7.7		8.6	
Forward Transconductance ³	g _{FS}	V _{DS} = 10 V, I _D = 0.5 A	350	170		mS
Common Source Output Conductance ³	g _{OS}	V _{DS} = 10 V, I _D = 0.1 A	225			μS
DYNAMIC						
Input Capacitance	C _{iss}	V _{DS} = 25 V V _{GS} = 0 V f = 1 MHz	35		60	pF
Output Capacitance	C _{oss}		15		50	
Reverse Transfer Capacitance	C _{rss}		2		10	
SWITCHING						
Turn-On Time	t _{ON}	V _{DD} = 25 V, R _L = 23 Ω I _D = 1 A, V _{GEN} = 10 V R _G = 25 Ω (Switching time is essentially independent of operating temperature)	6		10	ns
Turn-Off Time	t _{OFF}		8		10	

- 1 Pulse width limited by junction temp.
2 Design only - not subject to production
Unless requested
3 pulse test: 300uSec, duty cycle less than
or equal to 2%

D Package
14-Lead Side Brazed (Hermetic)

