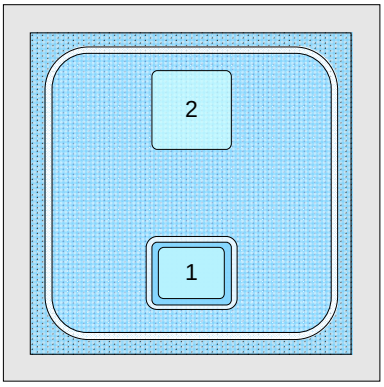
3VD045060JL N-channel MOSFET CHIPS

DESCRIPTION

- Ø 3VD045060JL is a N-Channel enhancement mode MOS-FET chip fabricated in advanced silicon epitaxial planar technology.
- Ø High density cell design for low R_{DS}(ON)
- Ø Rugged and reliable.
- Ø Fast switching performance.
- Ø High saturation current capability.
- Ø The chips may be packaged in SOT-23 type and the typical equivalent product is 2N7002.
- Ø The packaged product is widely used in the small servo motor control, power MOS-FET gate drivers, and other switching applications.
- Ø Die size: 0.53mm*0.53mm.



PAD1: GATE PAD2: SOURCE

CHIP TOPOGRAPHY

- Ø Chip Thickness: 230±20μm.
- Ø Top metal : Al, Backside Metal : Au.

ABSOLUTE MAXIMUM RATINGS (Tamb=25°C)

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	±20	V
Drain Current	I_D	115	mA
Power Dissipation (SOT-23)	P_D	200	mW
Operation Junction Temperature	T_J	150	°C
Storage Temperature	Tstg	-55-150	°C

ELECTRICAL CHARACTERISTICS (Tamb=25°C)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=10μA	60			V
		V_{GS} =0V, I_D=3mA	60			
Gate-Threshold Voltage*	$V_{th(GS)}$	V_{DS}= V_{GS}, I_D=250μA	1		2.5	
Gate-body Leakage	I_{GSS}	V_{DS}=0V, V_{GS} =±20V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=60V, V_{GS} =0V			1	μA
On-state Drain Current*	$I_{D(ON)}$	V_{GS}=10V, V_{DS}=7V	500			mA
Drain-Source On-Resistance*	$R_{DS(on)}$	V_{GS}=10V, I_D=500mA		1.2	7.5	Ω
		V_{GS}=5V, I_D=50mA		1.7	7.5	
Drain-Source On- Voltage *	$V_{DS(on)}$	V_{GS}=10V, I_D=500mA			3.75	V
		V_{GS}=5V, I_D=50mA			0.375	
Forward Transconductance*	gts	V_{DS}=10V, I_D=200mA	80			ms
Diode Forward Voltage	V_{SDF}	I_S=115mA, V_{GS} =0V			1.2	V

Note:* Pulse test, pulse width≤300μS, duty cycle≤2%