VIS30724
30V N-Channel SGT MOSFET

General Description
- SGT MOSFET Technology
- Low $R_{DS(ON)}$ at 4.5V V_{GS}
- Low Gate Charge
- High Current Capability
- RoHS and Halogen-Free Compliant

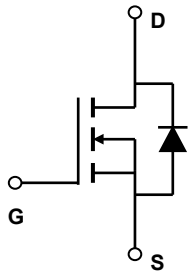
Applications
- General DC/DC Converters
- VRM Vcore for Notebook and Server
- Battery Power Management
- Motor Drive Bridge Switch

Product Summary

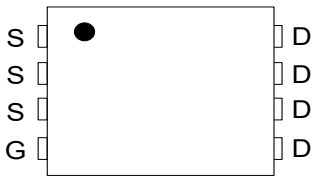
V_{DS}		30V
I_D	(at V_{GS}=10V)	40A
$R_{DS(ON)}$	(at V_{GS}=10V, typ)	2.4mΩ
$R_{DS(ON)}$	(at V_{GS}=4.5V, typ)	3.5mΩ

100% UIS Tested

100% R_g Tested

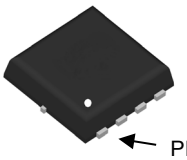


Top View

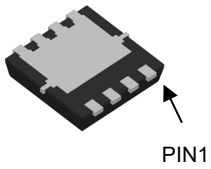


DFN3.3X3.3

Top View



Bottom View



Orderable Part Number	Package Type	Form	Minimum Order Quantity
VIS30724	DFN3.3x3.3	Tape & Reel	5000

Absolute Maximum Ratings T_A=25°C unless otherwise noted

Parameter		Symbol	Maximum	Units
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current [5]	T_C=25°C	I_D	40	A
	T_C=100°C		TBD	A
Pulsed Drain Current [3]		I_{DM}	150	A
Continuous Drain Current	T_A=25°C	I_{DSM}	TBD	A
	T_A=100°C		TBD	A
Avalanche Current [3]		I_{AS}	33	A
Avalanche Energy L=0.1mH [3]		E_{AS}	54	mJ
Power Dissipation [2]	T_C=25°C	P_D	TBD	W
	T_C=100°C		TBD	W
Power Dissipation [1]	T_A=25°C	P_{DSM}	TBD	W
	T_A=100°C		TBD	W
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to 150	°C

Thermal Characteristics

Parameter		Symbol	Typ	Max	Units
Maximum Junction-to-Ambient [1]	t ≤ 10s	$R_{\theta JA}$	30		°C/W
Maximum Junction-to-Ambient [1,4]	Steady-State		60		°C/W
Maximum Junction-to-Case	Steady-State	$R_{\theta JC}$	2.4		°C/W

Electrical Characteristics (T_J=25°C unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
STATIC PARAMETERS						
BV_{DSS}	Drain-Source Breakdown Voltage	I_D=250μA, V_{GS}=0V	30			V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=30V, V_{GS}=0V			1	μA
		T_J=55°C			5	
I_{GSS}	Gate-Body leakage current	V_{DS}=0V, V_{GS}=±20V			±100	nA
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS}, I_D=250μA	1.4	1.6	2.0	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=10V, I_D=20A		2.4	3.0	mΩ
		T_J=125°		TBD		
		V_{GS}=4.5V, I_D=20A		3.5	4.6	
g_{FS}	Forward Transconductance	V_{DS}=5V, I_D=20A				S
V_{SD}	Diode Forward Voltage	I_S=1A, V_{GS}=0V		0.7		V
I_S	Maximum Body-Diode Continuous Current				TBD	A
DYNAMIC PARAMETERS						
C_{iss}	Input Capacitance	V_{GS}=0V, V_{DS}=15V, f=1MHz		2600		pF
C_{oss}	Output Capacitance			988		pF
C_{rss}	Reverse Transfer Capacitance			80		pF
R_g	Gate resistance	f=1MHz		1.5		Ω
SWITCHING PARAMETERS						
Q_g(10V)	Total Gate Charge	V_{GS}=10V, V_{DS}=15V, I_D=20A		34		nC
Q_g(4.5V)	Total Gate Charge			17		nC
Q_{gs}	Gate Source Charge			TBD		nC
Q_{gd}	Gate Drain Charge			TBD		nC
$t_{D(on)}$	Turn-On Delay Time	V_{GS}=10V, V_{DS}=15V, R_L=0.75Ω, R_{GEN}=3Ω		TBD		ns
t_r	Turn-On Rise Time			TBD		ns
$t_{D(off)}$	Turn-Off Delay Time			TBD		ns
t_f	Turn-Off Fall Time			TBD		ns
t_{rr}	Body Diode Reverse Recovery Time	I_F=20A, di/dt=200A/μs		TBD		ns
Q_{rr}	Body Diode Reverse Recovery Charge	I_F=20A, di/dt=200A/μs		40		nC

1) $R_{\theta JA}$ is measured with the device mounted on 1in^2 FR-4 board with 2oz. Copper, in a still air environment with T_A =25°C. The Power dissipation P_{DSM} is based on $R_{\theta JA}$ t≤ 10s and the maximum allowed junction temperature of 150°C. The value in any given application depends on the user's specific board design.
2) The power dissipation P_D is based on $T_{J(MAX)}$=150°C, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heatsinking is used.
3) Single pulse width limited by junction temperature $T_{J(MAX)}$=150°C.
4) $R_{\theta JA}$ is the sum of the thermal impedance from junction to case $R_{\theta JC}$ and case to ambient.
5) The maximum current rating is package limited.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for MOSFET ***category:***

Click to view products by VOLTAIC ***manufacturer:***

Other Similar products are found below :

614233C 648584F IRFD120 IRFF430 JANTX2N5237 2N7000 FCA20N60_F109 FDZ595PZ AOD464 2SK2267(Q) 2SK2545(Q,T) 405094E 423220D MIC4420CM-TR VN1206L 614234A 715780A SSM6J414TU,LF(T 751625C PSMN4R2-30MLD TK31J60W5,S1VQ(O 2SK2614(TE16L1,Q) DMN1017UCP3-7 EFC2J004NUZTDG FCAB21350L1 P85W28HP2F-7071 DMN1053UCP4-7 NTE2384 NTE2969 NTE6400A DMN2080UCB4-7 DMN61D9UWQ-13 US6M2GTR DMN31D5UDJ-7 SSM6P54TU,LF DMP22D4UFO-7B IPS60R3K4CEAKMA1 DMN1006UCA6-7 DMN16M9UCA6-7 STF5N65M6 STU5N65M6 C3M0021120D DMN13M9UCA6-7 BSS340NWH6327XTSA1 MCM3400A-TP DMTH10H4M6SPS-13 IRF40SC240ARMA1 IPS60R1K0PFD7SAKMA1 IPS60R360PFD7SAKMA1 IPS60R600PFD7SAKMA1