

### Product Summary

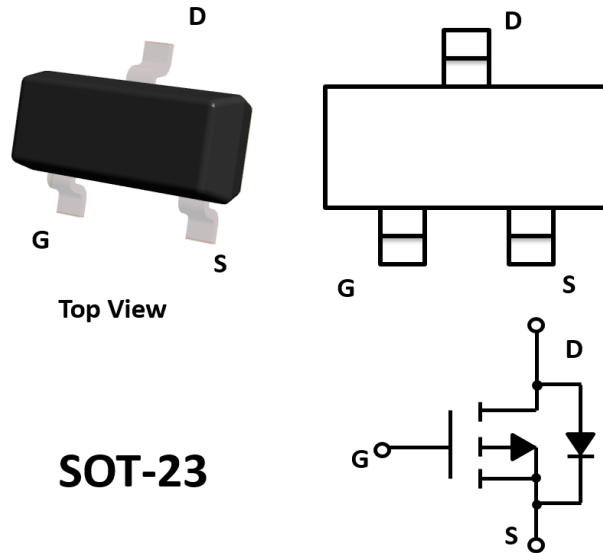
- $V_{DS}$  40V
- $I_D$  3.0A

### General Description

- Trench Power MV MOSFET technology
- Excellent package for heat dissipation
- High density cell design for low  $R_{DS(ON)}$
- MSL LEVEL1

### Applications

- DC-DC Converters
- Power management functions



**SOT-23**

### ■ MAXIMUM RATINGS 最大額定值

Characteristic 特性參數	Symbol 符號	Max 最大值	Unit 單位
Drain-Source Voltage 漏極-源極電壓	$BV_{DSS}$	-40	V
Gate- Source Voltage 柵極-源極電壓	$V_{GS}$	$\pm 20$	V
Drain Current (continuous) 漏極電流-連續	$I_{DR}$	-3	A
Drain Current (pulsed) 漏極電流-脈沖	$I_{DRM}$	-5	A

### ■ THERMAL CHARACTERISTICS 熱特性

Characteristic 特性	Symbol 符號	Max 最大值	Unit 單位
Total Device Dissipation 總耗散功率 $T_A=25^\circ\text{C}$ 環境溫度為 $25^\circ\text{C}$ Derate above $25^\circ\text{C}$ 超過 $25^\circ\text{C}$ 遞減	PD	1000 3.8	mW mW/ $^\circ\text{C}$
Thermal Resistance Junction to Ambient 熱阻	$R_{\theta JA}$	150	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature 結溫和儲存溫度	$T_J, T_{stg}$	150 $^\circ\text{C}$ , -55to+150 $^\circ\text{C}$	

## ■DEVICE MARKING 打標

LM4375 = C3

## ■ELECTRICAL CHARACTERISTICS 電特性

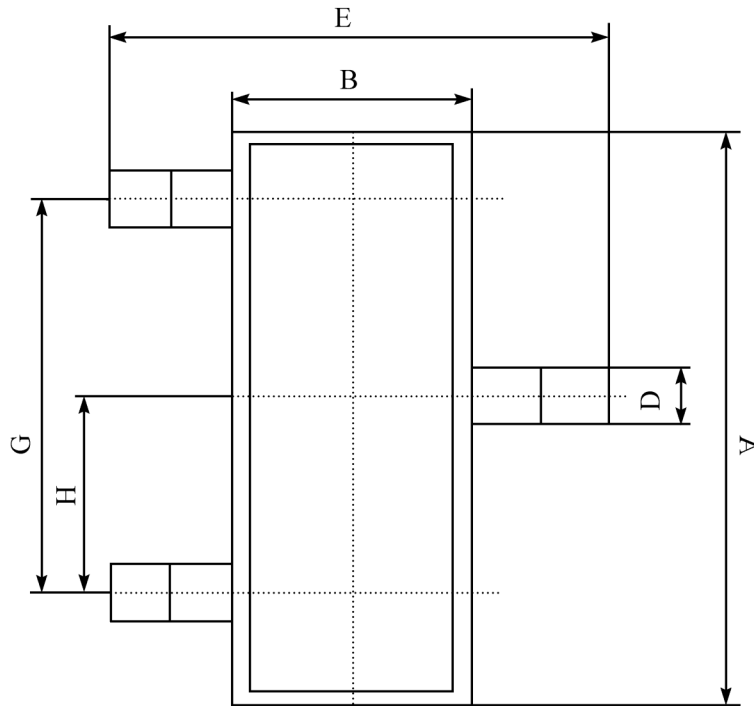
( $T_A=25^{\circ}\text{C}$  unless otherwise noted 如無特殊說明，溫度為  $25^{\circ}\text{C}$ )

Characteristic 特性參數	Symbol 符號	Min 最小值	Typ 典型值	Max 最大值	Unit 單位
Drain-Source Breakdown Voltage 漏極-源極擊穿電壓( $I_D=-250\mu\text{A}, V_{GS}=0\text{V}$ )	$BV_{DSS}$	-40	—	—	V
Gate Threshold Voltage 柵極開啓電壓( $I_D=-250\mu\text{A}, V_{GS}=V_{DS}$ )	$V_{GS(th)}$	-1.0	—	-3	V
Diode Forward Voltage Drop 內附二極管正向壓降 ( $I_{SD}=-750\text{mA}, V_{GS}=0\text{V}$ )	$V_{SD}$	—	—	-1	V
Zero Gate Voltage Drain Current 零柵壓漏極電流( $V_{GS}=0\text{V}, V_{DS}=-40\text{V}$ )	$I_{DSS}$	—	—	-1	$\mu\text{A}$
Gate Body Leakage 柵極漏電流( $V_{GS}=\pm 20\text{V}, V_{DS}=0\text{V}$ )	$I_{GSS}$	—	—	$\pm 100$	nA
Static Drain-Source On-State Resistance 靜態漏源導通電阻( $I_D=-5\text{A}, V_{GS}=-10\text{V}$ ) ( $I_D=-4\text{A}, V_{GS}=-4.5\text{V}$ )	$R_{DS(ON)}$	—	75 115	80 120	$\text{m}\Omega$
Input Capacitance 輸入電容 ( $V_{GS}=0\text{V}, V_{DS}=-25\text{V}, f=1\text{MHz}$ )	$C_{ISS}$	—	573	—	pF
Common Source Output Capacitance 共源輸出電容( $V_{GS}=0\text{V}, V_{DS}=-25\text{V}, f=1\text{MHz}$ )	$C_{OSS}$	—	110	—	pF
Turn-ON Time 開啓時間 ( $V_{DS}=-30\text{V}, I_D=-270\text{mA}, R_{GEN}=6\Omega$ )	$t_{(on)}$	—	—	55	ns
Turn-OFF Time 關斷時間 ( $V_{DS}=-30\text{V}, I_D=-270\text{mA}, R_{GEN}=6\Omega$ )	$t_{(off)}$	—	—	120	ns

- FR-5=1.0×0.75×0.062in.
- Alumina=0.4×0.3×0.024in.99.5%alumina.
- Pulse Width≤300  $\mu\text{s}$ ; Duty Cycle≤2.0%.

■DIMENSION 外形封裝尺寸

單位(UNIT): mm



序號	數值及公差
A	2.90±0.10
B	1.30±0.10
C	1.00±0.10
D	0.40±0.10
E	2.40±0.20
G	1.90±0.10
H	0.95±0.05
J	0.13±0.05
K	0.00-0.10
M	≥0.2
N	0.60±0.10
P	7±2°

