

自主封測 品質把控 售後保障

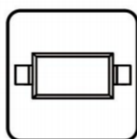
WEB | WWW.TDSEMIC.COM



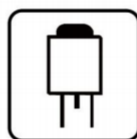
電源管理



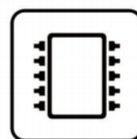
顯示驅動



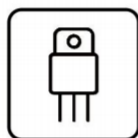
二三極管



LDO穩壓器



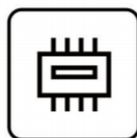
觸摸芯片



MOS管



運算放大器



存儲芯片



MCU



串口通信

TD4407

產品規格說明書

DESCRIPTION

The TD4407 is the P-Channel logic enhancement mode power field effect transistor is produced using high cell density. Advanced trench technology to provide excellent $R_{DS(ON)}$.

This high density process is especially tailored to minimize on-state resistance.

These devices are particularly suited for low voltage application, and low in-line power loss are needed in a very small outline surface mount package.

The TD4407 is available in SOP8 Package

FEATURES

- 30V/-10A, $R_{DS(ON)} = 11m\Omega(yp)@V_{GS} = -10V$
- -30V/-5A, $R_{DS(ON)} = 16m\Omega(yp)@V_{GS} = -4.5V$
- Super high density cell design for extremely low $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability
- Available in SOP8 Package

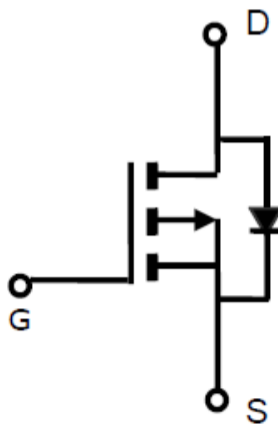
APPLICATION

- High Frequency Point-of-Load Synchronous
- New working DC-DC Power System
- Load Switch

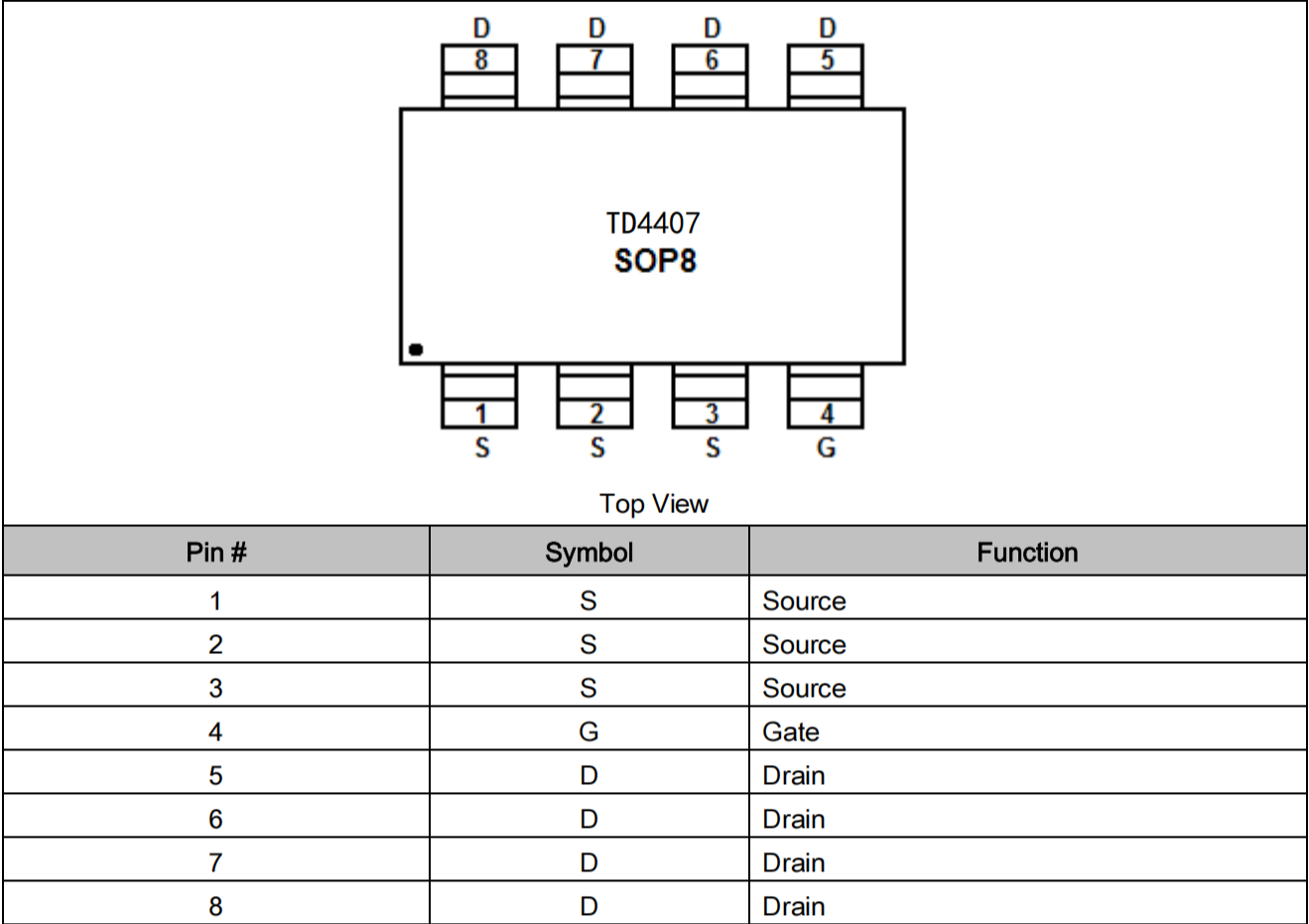
ORDERING INFORMATION

Package Type	Part Number	Qty(PCS)
SOP8	TD4407	3000

P CHANNEL MOSFET



PIN DESCRIPTION



THERMAL INFORMATION

Parameter	Symbol	Max	Unit
Thermal Resistance-Junction to Ambient	R _{θJA}	85	°C/W
Thermal Resistance-Junction to Case	R _{θJC}	28	°C/W

ABSOLUTE MAXIMUM RATINGS

$T_A = 25^{\circ}\text{C}$ Unless otherwise specified

V_{DSS} , Drain-Source Voltage		30V
V_{GSS} , Gate-Source Voltage		$\pm 20\text{V}$
I_D , Continuous Drain Current, $V_{GS}=10\text{V}$ ^{NOTE1}	$T_A=25^{\circ}\text{C}$	12A
I_{DM} , Pulsed Drain Current ^{NOTE2}		30A
P_D , Power Dissipation	$T_A=25^{\circ}\text{C}$	3.2W
	$T_A=70^{\circ}\text{C}$	2W
T_J , Operation Junction Temperature		-55/150 $^{\circ}\text{C}$
T_{STG} , Storage Temperature Range		-55/150 $^{\circ}\text{C}$

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

NOTE1: The value of $R_{\theta JA}$ is measured with the device mounted on 1in 2 FR-4 board with 2oz. Copper, in a still air environment with $T_A=25^{\circ}\text{C}$.

NOTE2: The data tested by pulsed , pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$

ELECTRICAL CHARACTERISTICS

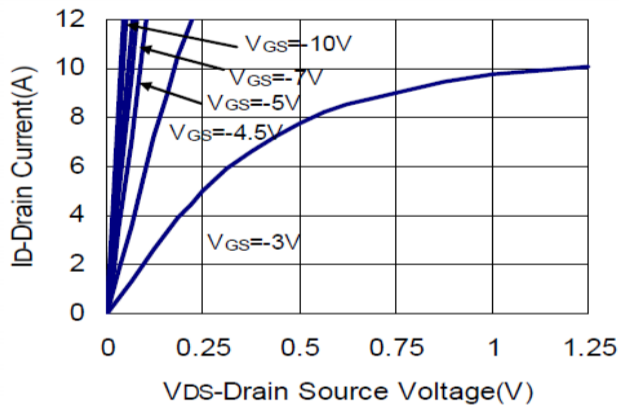
T_J = 25°C Unless otherwise specified

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Static Parameters						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =-250μA	-30	-	-	V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-1.0	-	-2.5	V
Gate Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V	-	-	±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-24V, V _{GS} =0V	-	-	-1	μA
		V _{DS} =-24V, V _{GS} =0V	-	-	-5	
		T _J =55°C	-	-	-	
Drain-source On-Resistance	R _{DS(ON)}	V _{GS} =-10V, I _D =-10A	-	11	12	mΩ
		V _{GS} =-4.5V, I _D =-5A	-	14	16	
Forward Transconductance	G _{fs}	V _{DS} =-5V, I _D =-30.0A	-	24	-	S
Source-Drain Diode						
Diode Forward Voltage	V _{SD}	I _S =-2.3A, V _{GS} =0V	-	-0.75	-1.0	V
Dynamic Parameters						
Total Gate Charge	Q _g	V _{DS} =-15V	-	21	-	nC
Gate-Source Charge	Q _{gs}	V _{GS} =4.5V	-	5.2	-	
Gate-Drain Charge	Q _{gd}	I _D =-12A	-	7.5	-	
Input Capacitance	C _{iss}	V _{DS} =-15V	-	2220	-	pF
Output Capacitance	C _{oss}	V _{GS} =0V	-	320	-	
Reverse Transfer Capacitance	C _{rss}	f=1MHz	-	235	-	
Turn-On Time	t _{d(on)}	V _{DD} =15V	-	34	-	nS
	t _r	V _{GS} =-10V	-	35	-	
Turn-Off Time	t _{d(off)}	I _D =-5A, R _G =3.3Ω	-	70	-	
	t _f		-	12	-	

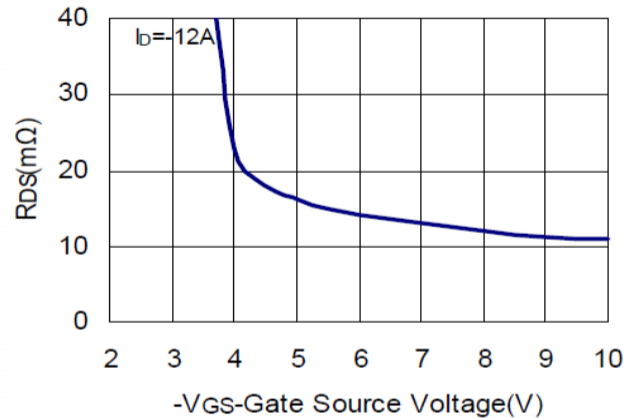
TYPICAL CHARACTERISTICS

$T_A = 25^\circ\text{C}$ Unless specified

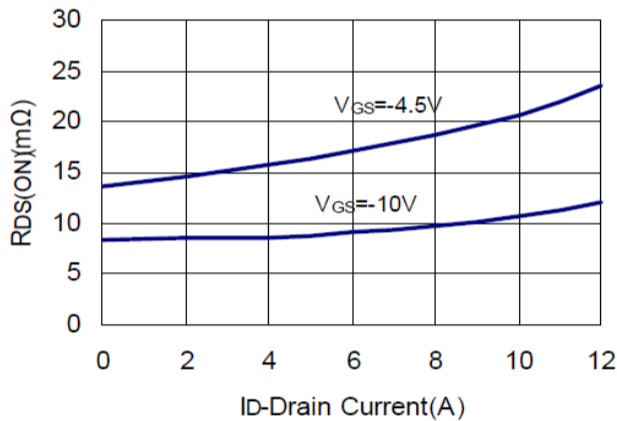
1. Output Characteristics



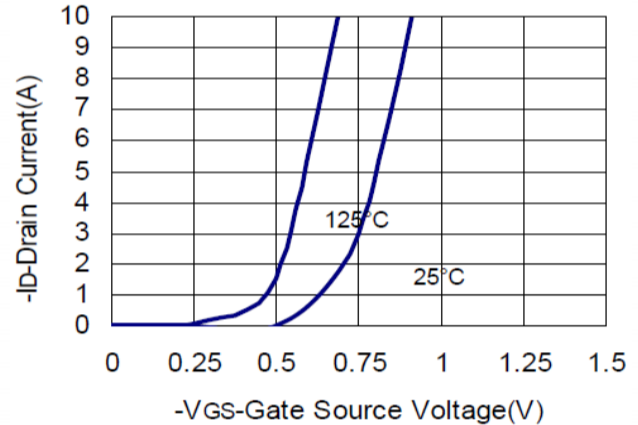
2. Drain-Source On Resistance



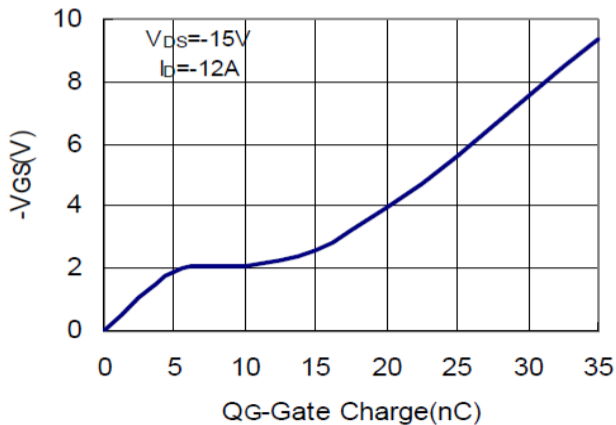
3. Drain Source On Resistance



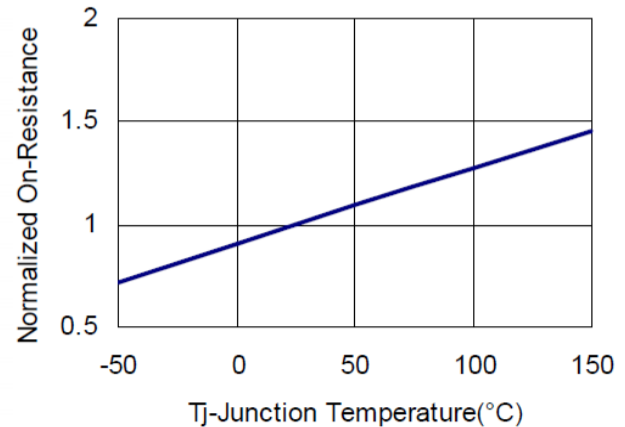
4. Transfer Characteristics



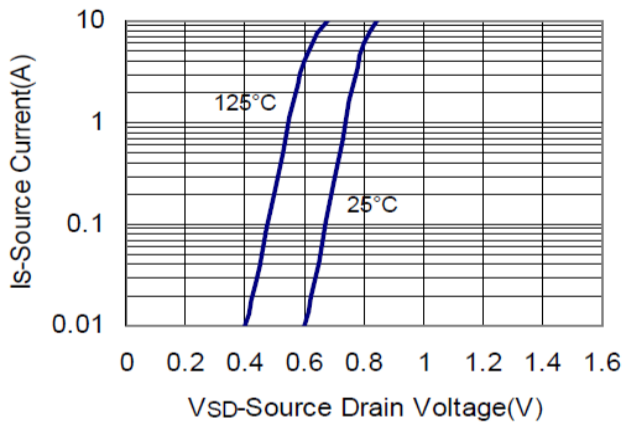
5. Gate Charge



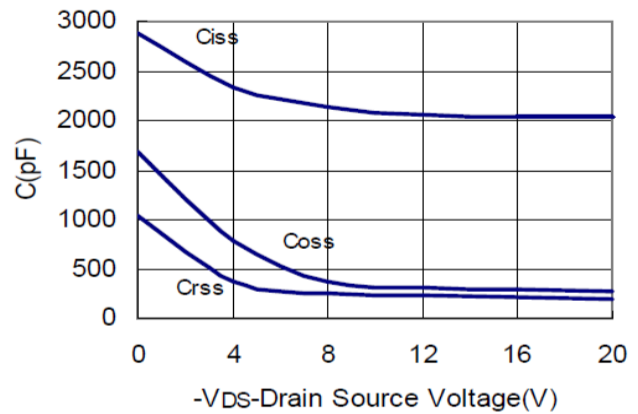
6. Drain Source Resistance



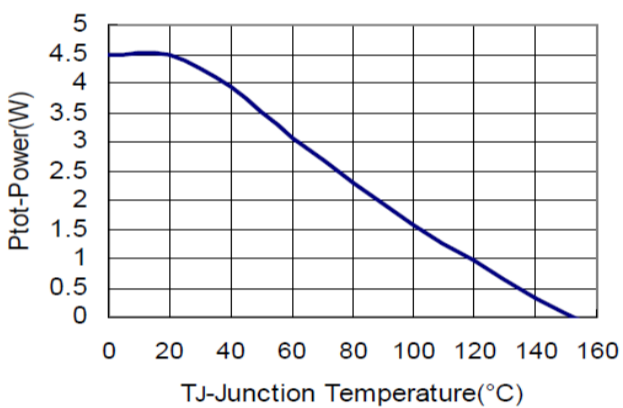
7. Source Drain Diode Forward



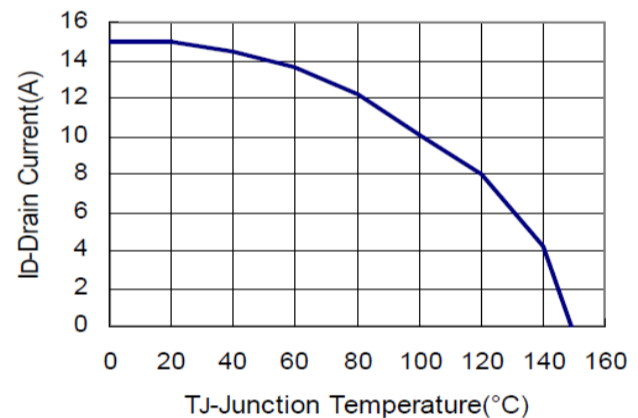
8. Capacitance



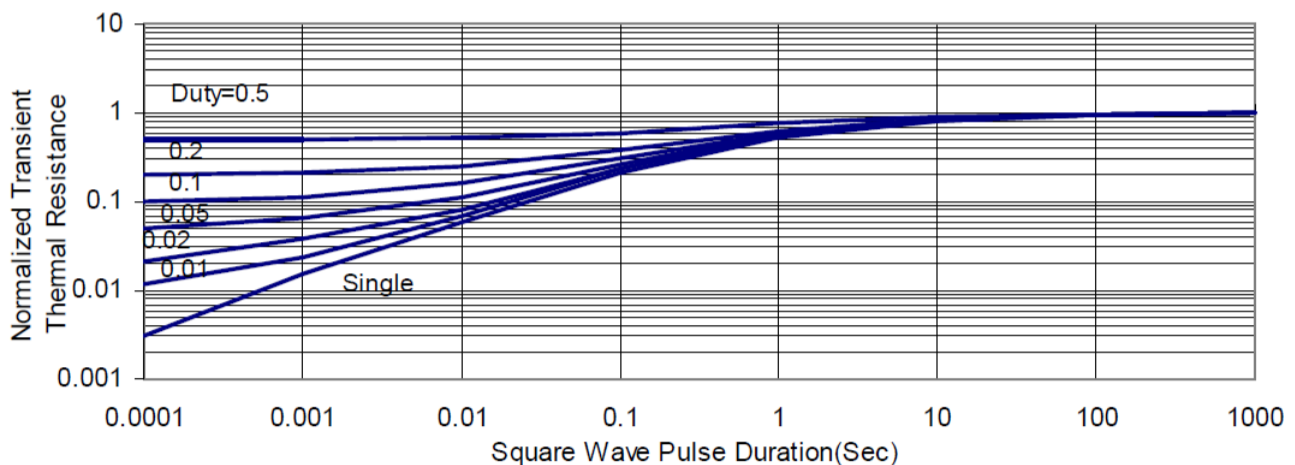
9. Power Dissipation



10. Drain Current

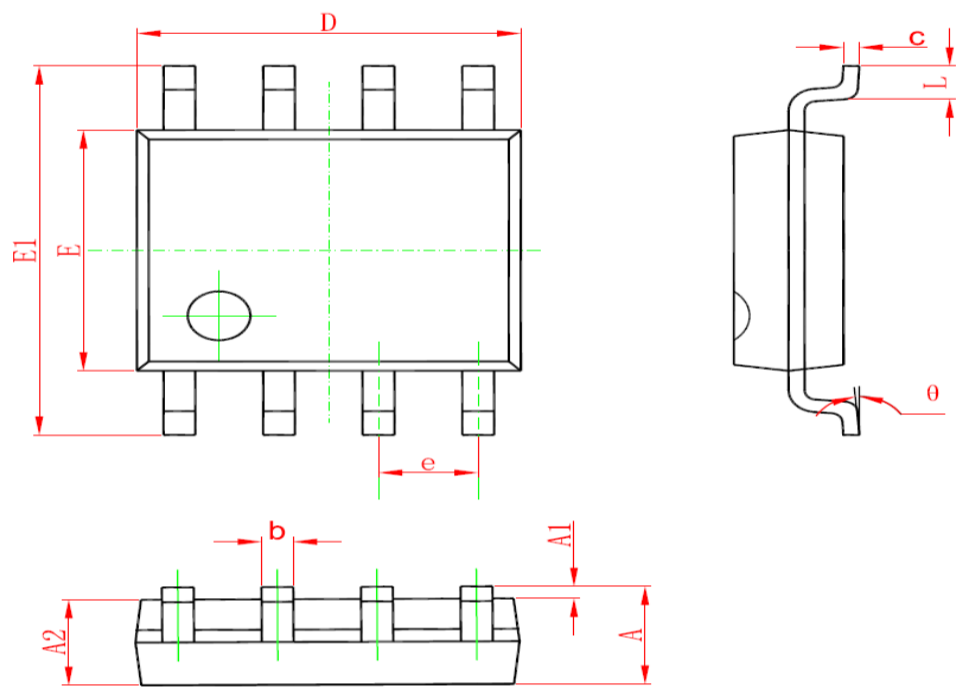


11. Thermal Transient Impedance



PACKAGE INFORMATION

Dimension in SOP8 (Unit: mm)



Symbol	Min	Max
A	1.350	1.750
A1	0.100	0.250
A2	1.350	1.550
b	0.330	0.510
c	0.170	0.250
D	4.700	5.100
E	3.800	4.000
E1	5.800	6.200
e	1.270(BSC)	
L	0.400	1.270
θ	0°	8°