N-Channel Enhancement Mode Power MOSFET

Description

The TCS1454N01 uses deep trench technology to provide excellent $R_{DS(ON)}$ and low gate charge. It can be used in a wide variety of applications.

General Features

- V_{DS} = 40V, I_D = 54A

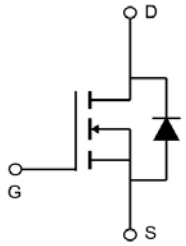
  $R_{DS(ON)}$ < 7mΩ @ V_{GS}=10V

  $R_{DS(ON)}$ < 10mΩ @V_{GS}=4.5V

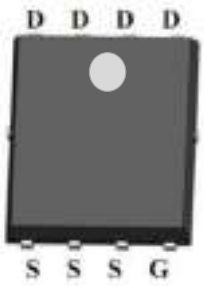
- High Power and current handing capability
- Lead free product is acquired
- Surface Mount Package

Application

- Power Tools
- Load Switch
- DC-DC Converter



Schematic diagram



Top View

Bottom View

DFN5x6-8L

Absolute Maximum Ratings (TC=25℃ unless otherwise noted)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	40	V
Gate-Source Voltage	V_{GS}	±20	V
Drain Current-Continuous	I_D	54	A
Drain Current-Continuous (T_C=100℃)	I_D	40	A
Pulsed Drain Current (Note 1)	I_{DM}	216	A
Maximum Power Dissipation	P_D	39	W
Single Pulsed Avalanche Energy (L=0.5mH)	E_{AS}	56	mJ
Operating Junction and Storage Temperature Range	T_J,T_{STG}	-55 To 150	℃

Thermal Characteristic

Thermal Resistance, Junction-to-Case (Note 2)	$R_{\theta JC}$	3.2	℃/W