

N- and P-Channel 30-V (D-S) MOSFET

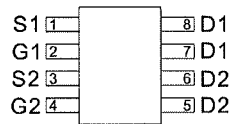
General Description

The B3942 is the N- and P-Channel logic enhancement mode power field effect transistors are produced using high cell density, DMOS trench technology. This high density process is especially tailored to minimize on-state resistance. These devices are particularly suited for low voltage application such as cellular phone and notebook computer power management and other battery powered circuits where high-side switching and low in-line power loss are needed in a very small outline surface mount package.

Features

- $R_{DS(ON)}=25m\Omega@V_{GS}=10V$ (N-Ch)
- $R_{DS(ON)}=40m\Omega@V_{GS}=4.5V$ (N-Ch)
- $R_{DS(ON)}=35m\Omega@V_{GS}=-10V$ (P-Ch)
- $R_{DS(ON)}=58m\Omega@V_{GS}=-4.5V$ (P-Ch)
- Super High Density Cell Design for Extremely Low $R_{DS(ON)}$
- Exceptional On-Resistance and Maximum DC Current
- SOP-8 Package

Pin Configuration



Applications

- Power Management in Note book
- Portable Equipment
- Battery Powered System
- DC/DC Converter
- Load Switch
- DSC

Absolute Maximum Ratings (TA=25°C Unless Otherwise Noted):

Parameter	Symbol	N-Channel	P-Channel	Unit	
Drain-Source Voltage	V_{DSS}	30	-30	V	
Gate-Source Voltage	V_{GSS}	± 20	± 20	V	
Continuous Drain Current (t _J =150°C)	I_D	TA=25°C	6.9	-6.1	A
		TA=70°C	5.5	-4.9	
Pulsed Drain Current	I_{DM}	30	-30	A	
Continuous Source Current (Diode Conduction)	I_S	1.7	-1.7	A	
Maximum Power Dissipation	P_D	TA=25°C		W	
		TA=70°C			
Operating Junction Temperature	T_J	-55 to 150		°C	
Thermal Resistance-Junction to Case	$R_{\theta JC}$	44	30	°C/W	