

MSQ7434N

Dual N-Channel 30-V (D-S) MOSFET

These miniature surface mount MOSFETs utilize a high cell density trench process to provide low RDS (on) and to ensure minimal power loss and heat dissipation. Typical applications are DC-DC converters and power management in portable and battery-powered products such as computers, printers, PCMCIA cards, cellular and cordless telephones.

Key Features:

- Low rDS(on) provides higher efficiency and
- extends battery life
- Low thermal impedance copper leadframe
- SOIC-8 saves board space
- Fast switching speed
- High performance trench technology

Bruckewell Technology Corp., Ltd.

N-Channel MOSFET



Absolute Maximum Ratings (Tc=25°C unless otherwise noted)								
Parameter	Symbol	Value	Unit					
Drain-Source Voltage	VDS	30	V					
Gate-Source Voltage	VGS	±20	V					
Continuous Drain Current @ TC=25°C	ID	24	Α					
Continuous Drain Current @ TC=70°C	ID	20	Α					
Pulsed Drain Current	IDM	60	Α					
Continuous Source Current (Diode Conduction)	IS	2.9	А					
Power Dissipation (TC=25°C)	רות	5.0	W					
Power Dissipation (TC=100°C)	PD	3.2	W					
Operating Junction and Storage Temperature	Tj, Tstg	-55~+150	°C					

Notes

a. Surface Mounted on 1" x 1" FR4 Board.

b. Pulse width limited by maximum junction temperature

Thermal characteristics (Tc=25°C unless otherwise noted)					
Parameter	Symbol	Value	Unit		
Maximum Junction-to-Ambient(RthJA)	t <= 10 sec	25	°C/W		
	Steady State	65			



Characteristics (Tc=25°C, unless otherwise specified)								
Symbol	Test Conditions	Min.	Тур.	Max.	Unit			
Static Characteristics								
VGS	VGS = VDS, $ID = 250 uA$	1	-	-	V			
IGSS	$VDS = 0 V, VGS = \pm 20 V$	-	-	100	nA			
IDSS	VDS = 24 V, VGS = 0 V	-	-	1.00	uA			
	VDS = 24 V, VGS = 0 V, T J = 550C	-	-	5	uA			
ID(on)	VDS = 5 V, VGS = 4.5 V	30	-	-	А			
rDS(on)	VGS = 10 V, ID = 24 A	-	-	4.9	mΩ			
	VGS = 4.5 V, ID = 21 A	-	-	5.9	mΩ			
gfs	VDS = 15 V, ID = 24 A	-	90	-	S			
VSD	IS = 23 A, VGS = 0 V	-	0.7	-	V			
Dynamic	Characteristics			·	·			
Qg		-	25	-	nC			
Qgs		-	6	-	nC			
Qgd	VDS=15V, VGS=4.5V, ID=24A	-	9	-	nC			
td(on)		-	20	-	nS			
tr	$VDD = 15 V, RL = 6 \Omega$, $ID = 1 A$,	-	13	-	nS			
td(off)	VGEN = 10 V	-	82	-	nS			
tf		-	43	-	nS			

Notes

a. Pulse test: PW <= 300us duty cycle <= 2%.

b. Guaranteed by design, not subject to production testing.



Recommended footprint

