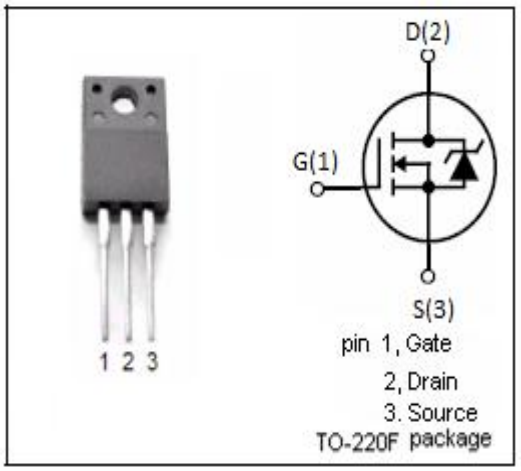
isc N-Channel MOSFET Transistor FMV12N50E



- **FEATURES**
- With TO-220F packaging
- High speed switching
- Very high commutation ruggedness
- Easy to use
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operationz

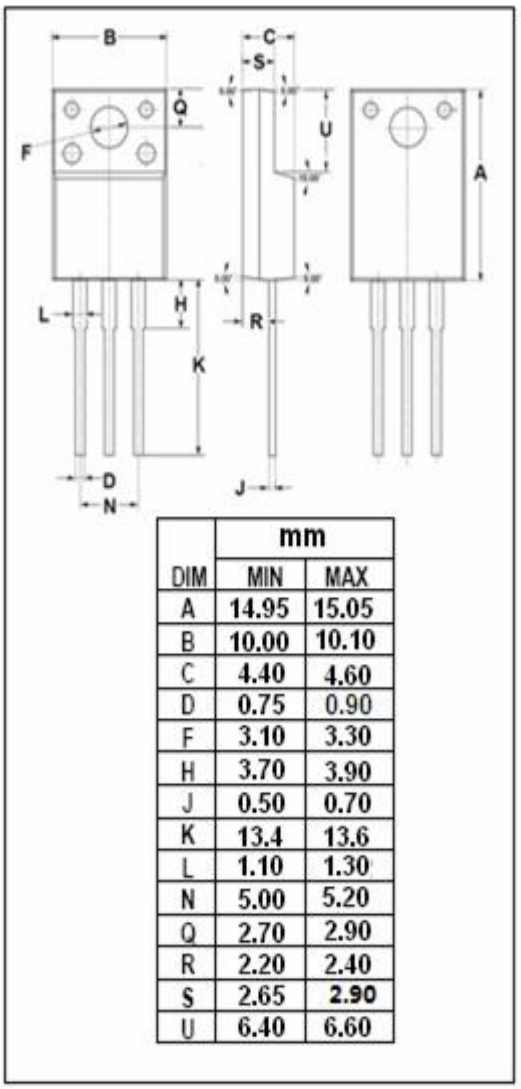
- **APPLICATIONS**
- Switching applications
- DC-DC converters
- Uninterruptible power supply

- **ABSOLUTE MAXIMUM RATINGS(T_a=25℃)**

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	500	V
V_{GSS}	Gate-Source Voltage	±30	V
I_D	Drain Current-Continuous	12	A
I_{DM}	Drain Current-Single Pulsed	48	A
P_D	Total Dissipation	60	W
T_j	Operating Junction Temperature	-55~150	℃
T_{stg}	Storage Temperature	-55~150	℃

- **THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
Rth(ch-c)	Channel-to-case thermal resistance	2.1	℃/W
Rth(ch-a)	Channel-to-ambient thermal resistance	58	℃/W



DIM	mm MIN	MAX
A	14.95	15.05
B	10.00	10.10
C	4.40	4.60
D	0.75	0.90
F	3.10	3.30
H	3.70	3.90
J	0.50	0.70
K	13.4	13.6
L	1.10	1.30
N	5.00	5.20
Q	2.70	2.90
R	2.20	2.40
S	2.65	2.90
U	6.40	6.60

isc N-Channel MOSFET Transistor FMV12N50E

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V; I_D= 0.25mA	500			V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=±30V; I_D=0.25mA	2.5		3.5	V
$R_{DS(on)}$	Drain-Source On-Resistance	V_{GS}= 10V; I_D=6A		445	520	mΩ
I_{GSS}	Gate-Source Leakage Current	V_{GS}= ±30V;V_{DS}= 0V			±0.1	μA
I_{DSS}	Drain-Source Leakage Current	V_{DS}= 500V; V_{GS}= 0V;Tc=25℃ V_{DS}= 400V; V_{GS}= 0V;Tc=125℃			25 250	μA
V_{SDF}	Diode forward voltage	I_{SD}=12A, V_{GS} = 0 V			1.32	V