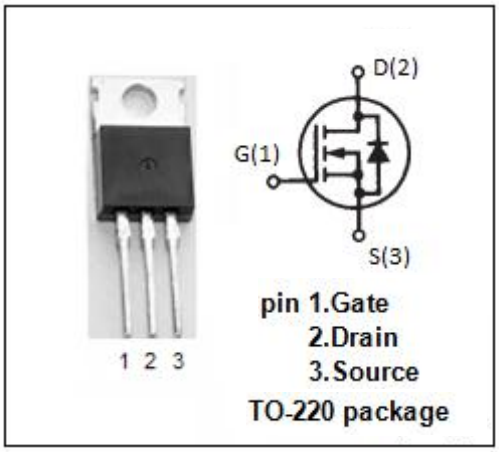
Isc N-Channel MOSFET Transistor TK42E12N1



• FEATURES

- Low drain-source on-resistance:
  $R_{DS}(ON)$ = 9.4mΩ (V_{GS} = 10 V)
- Enhancement mode:
  Vth = 2.0 to 4.0V (V_{DS} = 10 V, I_D=1.0mA)
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

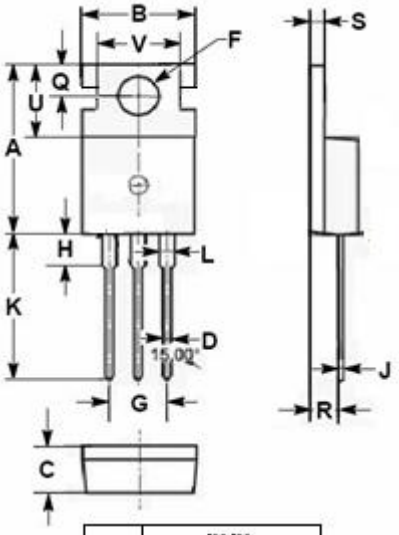
- Switching Voltage Regulators

• ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	120	V
V_{GS}	Gate-Source Voltage	±20	V
I_D	Drain Current-Continuous	42	A
I_{DM}	Drain Current-Single Pulsed	167	A
P_D	Total Dissipation @T_C=25℃	140	W
T_j	Max. Operating Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~150	℃

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
Rth(ch-c)	Channel-to-case thermal resistance	0.89	℃/W



DIM	mm MIN	MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

Isc N-Channel MOSFET Transistor TK42E12N1

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= 10mA	120			V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}= 10V; I_D=1.0mA	2.0		4.0	V
$R_{DS(on)}$	Drain-Source On-Resistance	V_{GS}=10V; I_D=21A			9.4	mΩ
I_{GSS}	Gate-Source Leakage Current	V_{GS}= ±20V;V_{DS}= 0V			±0.1	μA
I_{DSS}	Drain-Source Leakage Current	V_{DS}= 120V; V_{GS}= 0V			10	μA
V_{SDF}	Diode forward voltage	I_{DR} =42A, V_{GS} = 0 V			1.2	V