

Isc N-Channel MOSFET Transistor

TK56E12N1

• FEATURES

- Low drain-source on-resistance:
 $R_{DS(ON)} = 7.5m\Omega$ ($V_{GS} = 10V$)
- Enhancement mode:
 $V_{th} = 2.0$ to $4.0V$ ($V_{DS} = 10V$, $I_D = 1.0mA$)
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

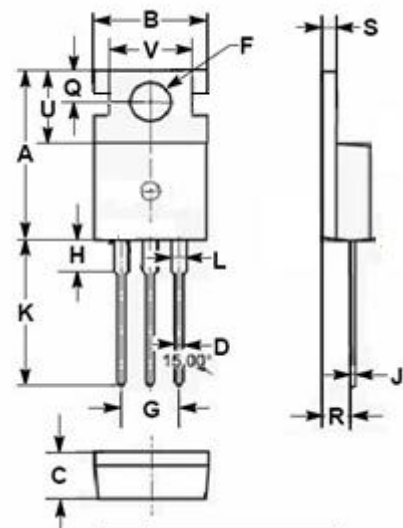
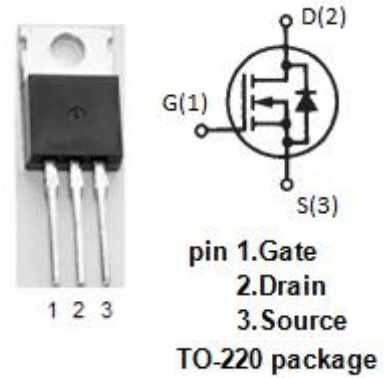
- Switching Voltage Regulators

• ABSOLUTE MAXIMUM RATINGS($T_a = 25^\circ C$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	120	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-Continuous	56	A
I_{DM}	Drain Current-Single Pulsed	210	A
P_D	Total Dissipation @ $T_c = 25^\circ C$	168	W
T_j	Max. Operating Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature	-55~150	$^\circ C$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	0.74	$^\circ C/W$



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**TK56E12N1****ELECTRICAL CHARACTERISTICS****T_c=25°C 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 =28A			7	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} =56A, V _{GS} = 0 V			1.2	V

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