

iscN-Channel MOSFET Transistor

TK3R1E04PL

• FEATURES

- Low drain-source on-resistance:
 $R_{DS(ON)} = 3.1\text{m}\Omega$ (MAX) ($V_{GS} = 10\text{ V}$)
- Enhancement mode:
 $V_{th} = 1.4\text{ to }2.4\text{ V}$ ($V_{DS} = 10\text{ V}$, $I_D = 0.5\text{ mA}$)
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

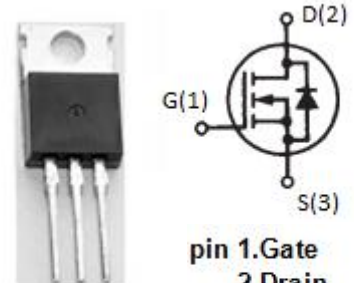
- Switching Voltage Regulators

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

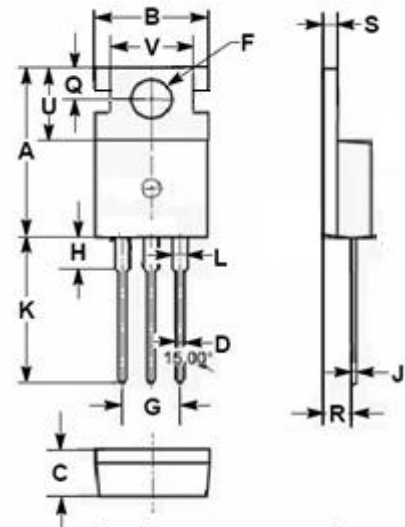
SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	40	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-Continuous	100	A
I_{DM}	Drain Current-Single Pulsed	128	A
P_D	Total Dissipation @ $T_c = 25^\circ\text{C}$	400	W
T_j	Max. Operating Junction Temperature	175	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~175	$^\circ\text{C}$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	1.72	$^\circ\text{C/W}$



pin 1.Gate
2.Drain
3.Source
TO-220 package



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

iscN-Channel MOSFET Transistor**TK3R1E04PL****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	40			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = 10V; I _D =0.5mA	1.4		2.4	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} = 10V; I _D =41A			3.1	mΩ
I _{GSS}	Gate-Source Leakage Current	V _{GS} = ±20V; V _{DS} = 0V			±0.1	μA
I _{DSS}	Drain-Source Leakage Current	V _{DS} = 40V; V _{GS} = 0V			10	μA
V _{SDF}	Diode forward voltage	I _{DR} =100A, V _{GS} = 0 V			1.5	V

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