

**iscN-Channel MOSFET Transistor****TK13A25D, ITK13A25D****• FEATURES**

- Low drain-source on-resistance:  
 $R_{DS(ON)} = 0.19\Omega$  (typ.) ( $V_{GS} = 10\text{ V}$ )
- Enhancement mode:  
 $V_{th} = 1.5\text{ to }3.5\text{ V}$  ( $V_{DS} = 10\text{ V}$ ,  $I_D = 1.0\text{ mA}$ )
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**• DESCRIPTION**

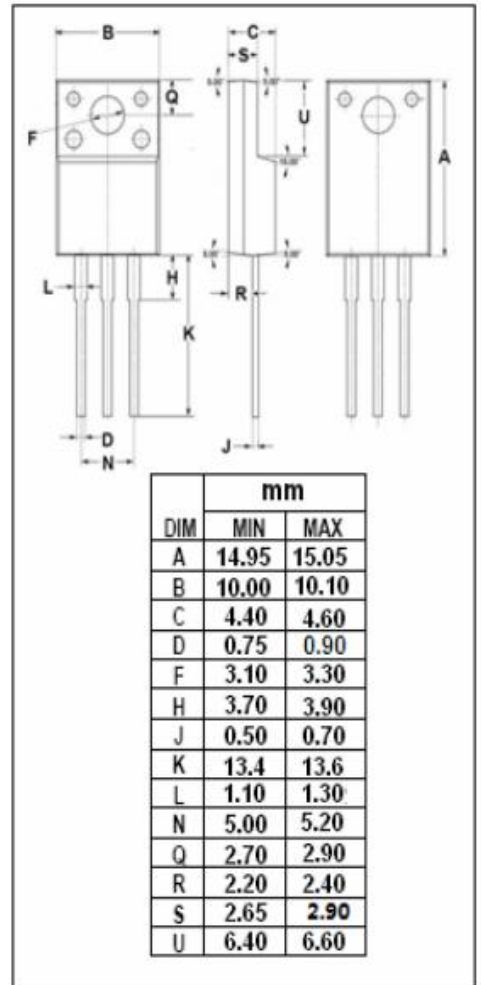
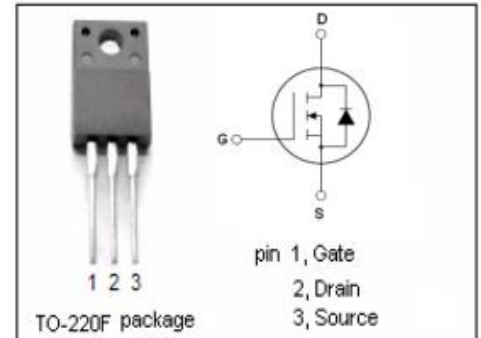
- Switching Voltage Regulators

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DS}$	Drain-Source Voltage	250	V
$V_{GS}$	Gate-Source Voltage	$\pm 20$	V
$I_D$	Drain Current-Continuous	13	A
$I_{DM}$	Drain Current-Single Pulsed	52	A
$P_D$	Total Dissipation @ $T_c = 25^\circ\text{C}$	35	W
$T_j$	Max. Operating Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~150	$^\circ\text{C}$

**• THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	3.57	$^\circ\text{C/W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	62.5	$^\circ\text{C/W}$



**iscN-Channel MOSFET Transistor****TK13A25D, ITK13A25D****ELECTRICAL CHARACTERISTICS****T<sub>C</sub>=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V; I <sub>D</sub> = 10mA	250			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = 10V; I <sub>D</sub> =1.0mA	1.5		3.5	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> =10V; I <sub>D</sub> =6.5A		190	250	mΩ
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> = ±20V; V <sub>DS</sub> = 0V			±1	μA
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> = 250V; V <sub>GS</sub> = 0V			10	μA
V <sub>SDF</sub>	Diode forward voltage	I <sub>DR</sub> =13A, V <sub>GS</sub> = 0 V			1.7	V

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