

# isc N-Channel MOSFET Transistor      TK10A50W, ITK10A50W

**• FEATURES**

- Low drain-source on-resistance:  $R_{DS(ON)} = 0.38\Omega$
- Easy to control Gate switching
- Enhancement mode:  $V_{th} = 2.7$  to  $3.7$  V ( $V_{DS} = 10$  V,  $I_D = 0.5$  mA)
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**• DESCRIPTION**

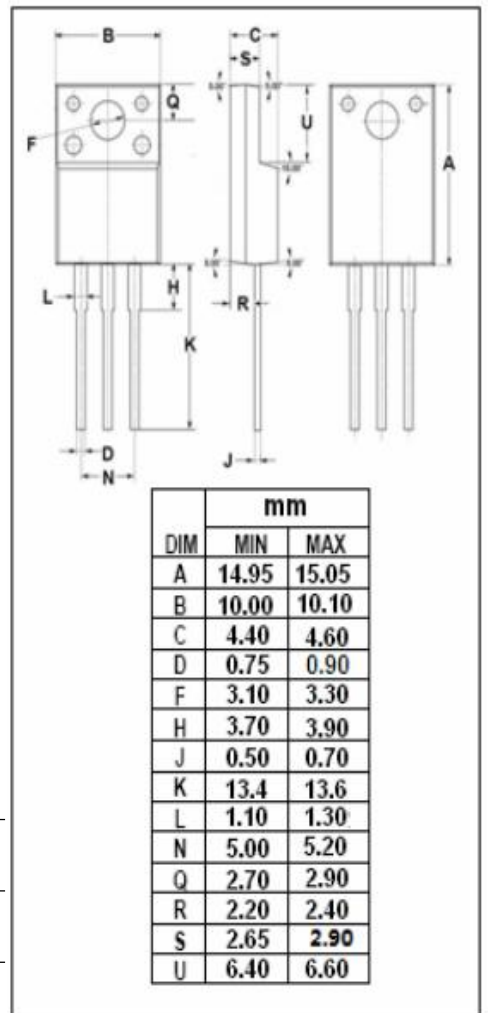
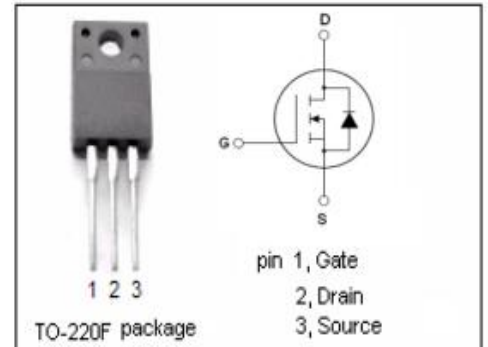
- Switching Voltage Regulators

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage	500	V
$V_{GS}$	Gate-Source Voltage	$\pm 30$	V
$I_D$	Drain Current-Continuous	9.7	A
$I_{DM}$	Drain Current-Single Pulsed	38.8	A
$P_D$	Total Dissipation @ $T_c = 25^\circ\text{C}$	30	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	4.17	$^\circ\text{C/W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	62.5	$^\circ\text{C/W}$



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### ELECTRICAL CHARACTERISTICS

$T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=10mA$	500			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=10V; I_D=0.5mA$	2.7		3.7	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=4.9A$			380	$m\Omega$
$I_{GSS}$	Gate-Source Leakage Current	$V_{GS}=\pm 30V; V_{DS}=0V$			$\pm 1$	$\mu A$
$I_{DSS}$	Drain-Source Leakage Current	$V_{DS}=500V; V_{GS}=0V$			10	$\mu A$
$V_{SDF}$	Diode forward voltage	$I_{DR}=9.7A, V_{GS}=0V$			1.7	V

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