

# Isc N-Channel MOSFET Transistor

# AOTF2142L

### • FEATURES

- With TO-220F package
- Low input capacitance and gate charge
- Low gate input resistance
- Reduced switching and conduction losses
- Optimized for fast-switching applications
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### • APPLICATIONS

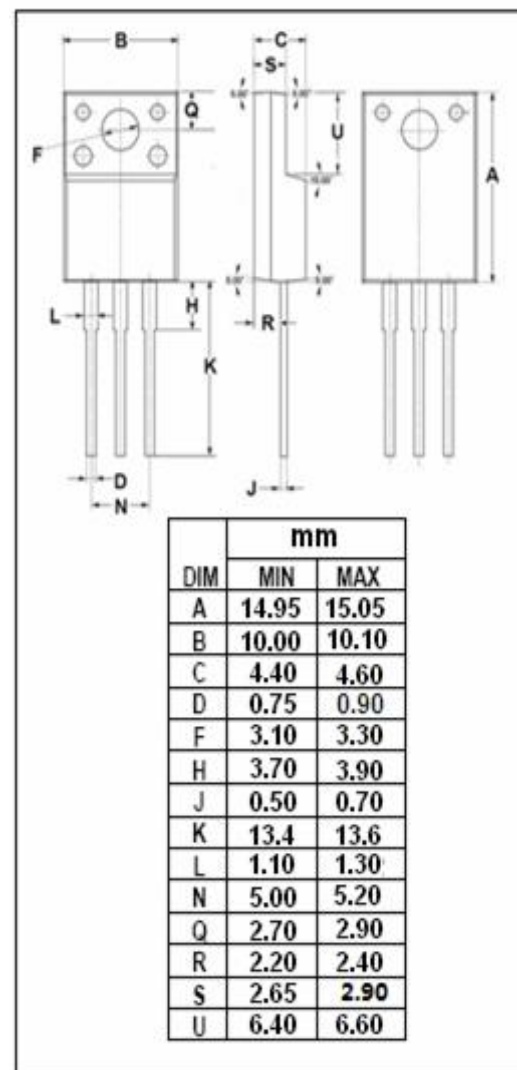
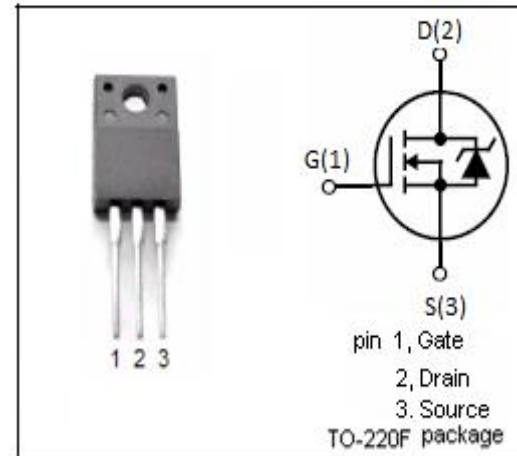
- Switching applications

### • ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>DSS</sub>	Drain-Source Voltage	40	V
V <sub>GSS</sub>	Gate-Source Voltage	±20	V
I <sub>D</sub>	Drain Current-Continuous @T <sub>c</sub> =25°C T <sub>c</sub> =100°C	112 78	A
I <sub>DM</sub>	Drain Current-Single Pulsed	800	A
P <sub>D</sub>	Total Dissipation @T <sub>c</sub> =25°C	41	W
T <sub>j</sub>	Max. Operating Junction Temperature	175	°C
T <sub>stg</sub>	Storage Temperature	-55~175	°C

### • THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R <sub>th(ch-c)</sub>	Channel-to-case thermal resistance	3.6	°C/W
R <sub>th(ch-a)</sub>	Channel-to-ambient thermal resistance	60	°C/W



**Isc N-Channel MOSFET Transistor****AOTF2142L****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> =0.25mA	40			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = ±20V; I <sub>D</sub> =0.25mA	1.3		2.3	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> =20A		1.55	1.9	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> = 40V; V <sub>GS</sub> = 0V; T <sub>j</sub> =25°C V <sub>DS</sub> = 40V; V <sub>GS</sub> = 0V; T <sub>j</sub> =55°C			1 5	μA
V <sub>SDF</sub>	Diode forward voltage	I <sub>SD</sub> =1A, V <sub>GS</sub> = 0 V			1.0	V

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