

**isc N-Channel MOSFET Transistor**
**IRFP054N, IIRFP054N**
**• FEATURES**

- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 12m\Omega$
- Enhancement mode:
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**• DESCRIPTION**

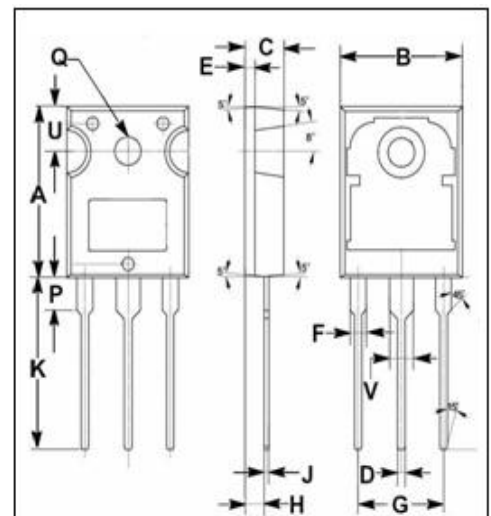
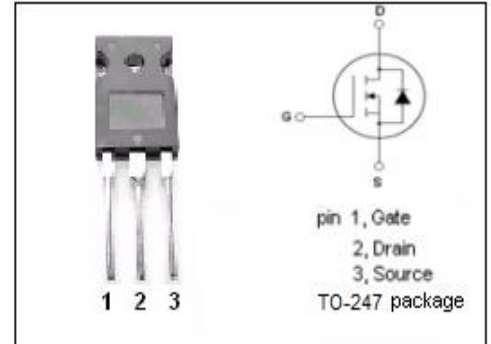
- Ultra Low On-resistance
- Fast Switching

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DS}$	Drain-Source Voltage	55	V
$V_{GS}$	Gate-Source Voltage	$\pm 20$	V
$I_D$	Drain Current-Continuous	81	A
$I_{DM}$	Drain Current-Single Pulsed	290	A
$P_D$	Total Dissipation @ $T_c=25^\circ\text{C}$	170	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
$R_{th(j-c)}$	Channel-to-case thermal resistance	0.9	$^\circ\text{C/W}$
$R_{th(j-a)}$	Channel-to-ambient thermal resistance	40	$^\circ\text{C/W}$



DIM	mm	
	MIN	MAX
A	19.80	20.20
B	15.40	15.80
C	4.90	5.10
D	0.90	1.10
E	1.40	1.60
F	1.90	2.10
G	10.80	11.00
H	2.40	2.60
J	0.50	0.70
K	19.50	20.50
P	3.90	4.10
Q	3.30	3.50
U	5.20	5.40
V	2.90	3.10

## isc N-Channel MOSFET Transistor

## IRFP054N, IIRFP054N

## 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> =250 μA	55			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> ; I <sub>D</sub> =250 μA	2.0		4.0	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> =10V; I <sub>D</sub> =43A			12	mΩ
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> = ±20V			±0.1	μA
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> =55V; V <sub>GS</sub> = 0V			25	μA
V <sub>SD</sub>	Diode forward voltage	I <sub>S</sub> =43A, V <sub>GS</sub> = 0V			1.3	V

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