

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

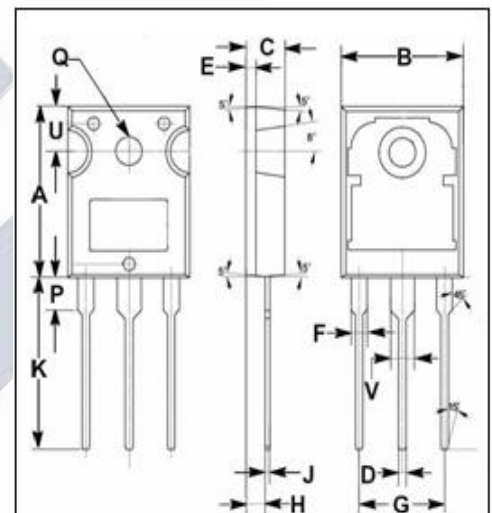
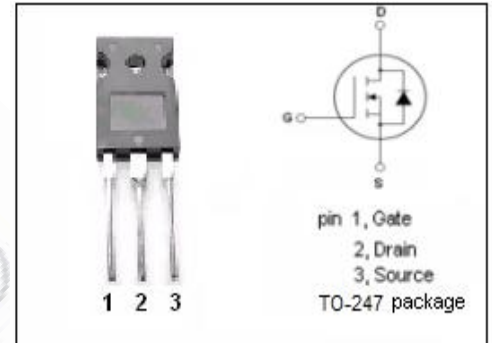
- Ultra Low On-resistance
- Fast Switching

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	55	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-Continuous	81	A
I_{DM}	Drain Current-Single Pulsed	290	A
P_D	Total Dissipation @ $T_c=25^\circ C$	170	W
T_j	Max. Operating Junction Temperature	175	$^\circ C$
T_{stg}	Storage Temperature	-55~175	$^\circ C$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(j-c)}$	Channel-to-case thermal resistance	0.9	$^\circ C/W$
$R_{th(j-a)}$	Channel-to-ambient thermal resistance	40	$^\circ C/W$



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

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$; $I_D=250\text{ }\mu\text{A}$	55			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}$; $I_D=250\text{ }\mu\text{A}$	2.0		4.0	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V$; $I_D=43A$			12	$m\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS}= \pm 20V$			± 0.1	μA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=55V$; $V_{GS}= 0V$			25	μA
V_{SD}	Diode forward voltage	$I_S=43A$, $V_{GS}= 0V$			1.3	V