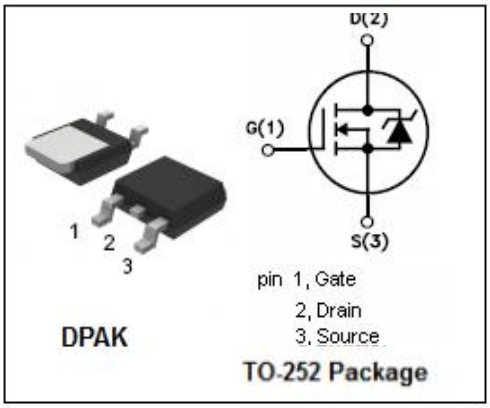
isc N-Channel Mosfet Transistor IRFR024NPBF

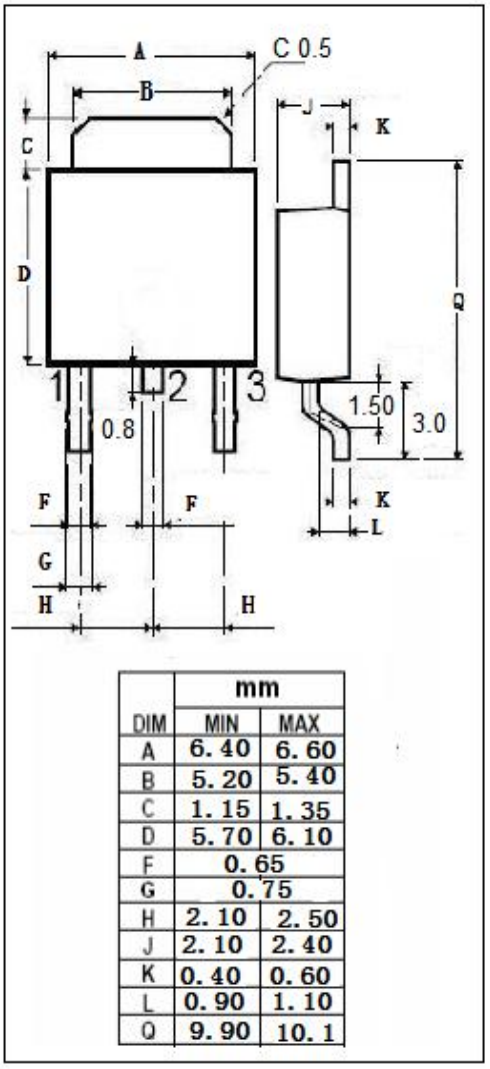


- **FEATURES**
- Drain Current I_D=17A@ T_C=25℃
- Drain Source Voltage-
  : V_{DSS}= 55V(Min)
- Static Drain-Source On-Resistance
  : $R_{DS(on)}$ =75mΩ(Max)@V_{GS}=10V
- High density cell design for ultra low Rdson
- Fully characterized avalanche voltage and current
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

- **DESCRITION**
- Power switching application
- Hard switched and high frequency circuits
- Uninterruptible power supply

- **ABSOLUTE MAXIMUM RATINGS(T_a=25℃)**

SYMBOL	ARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage (V_{GS}=0)	55	V
V_{GS}	Gate-Source Voltage	±20	V
I_D	Drain Current-continuous@ TC=25℃	17	A
I_{DM}	Drain Current-Single Plused	68	A
P_{tot}	Total Dissipation@TC=25℃	45	W
T_j	Max. Operating Junction Temperature	175	℃
T_{stg}	Storage Temperature Range	-55~175	℃



DIM	mm MIN	MAX
A	6.40	6.60
B	5.20	5.40
C	1.15	1.35
D	5.70	6.10
F	0.65	
G	0.75	
H	2.10	2.50
J	2.10	2.40
K	0.40	0.60
L	0.90	1.10
Q	9.90	10.1

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN		MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS}= 0; I_D= 0.25mA	55			V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}= V_{GS}; I_D= 0.25mA	2		4	V
$R_{DS(on)}$	Drain-Source On-Resistance	V_{GS}= 10V; I_D=10A			0.075	Ω
I_{GSS}	Gate-Body Leakage Current	V_{GS}= ±20V;V_{DS}= 0			±100	nA
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=55V; V_{GS}= 0			25	μA
V_{SD}[1]	Forward On-Voltage	I_S= 10A; V_{GS}=0			1.3	V
Gfs[1]	Forward Transconductance	V_{DS}=20V； I_D=5A	18			S
Ciss*	Input capacitance	V_{GS}=0V V_{DS}=30V f=1MHz		2050		pF
Coss*	Output capacitance			158		pF
Crss*	Reverse transfer capacitance			120		pF
td(on)*	Turn-on delay time	V_{DD}=30V V_{GS}=10V R_G=3.0Ω RL=6.7Ω		7.4		ns
Tr*	Rise time			5.1		ns
td(off)*	Turn-off delay time			28.2		ns
Tf*	Fall time			5.5		ns
Qg*	Total Gate Charge	I_D=20A V_{DS}=30V V_{GS}=10V		50		nC
Qgs*	Gate-Source Charge			6		nC
Qgd*	Gate-Drain Charge			15		nC
trr	Reverse Recovery time	T_J=25℃ ,I_F=20A,di/dt=100A/us		28		ns
Qrr	Reverse Recovery change			40		nC

[1]:Pulse width≤300us,duty cycle ≤2%

*:Guaranteed by design,not subject to production

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