

isc N-Channel MOSFET Transistor

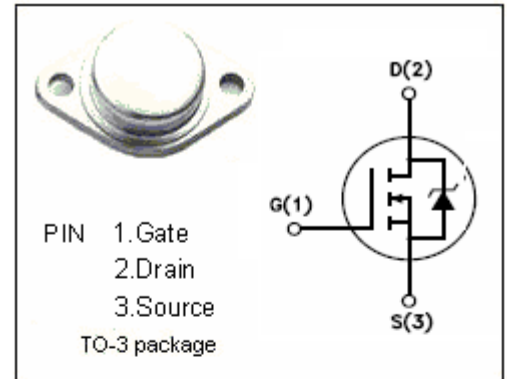
FRK150

DESCRIPTION

- 40A, 100V,  $R_{DS(on)} = 0.055\Omega$
- Second Generation Rad Hard MOSFET Results From New Design Concepts

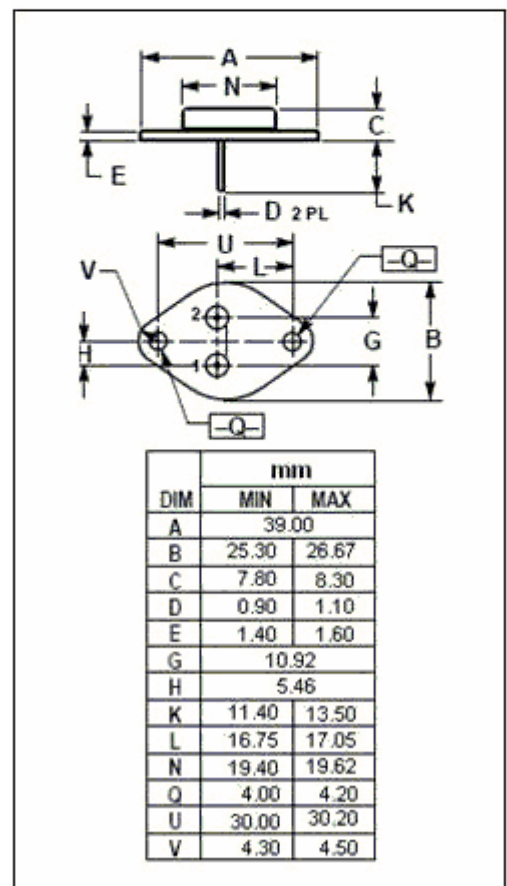
APPLICATIONS

It is specially designed and processed to exhibit minimal characteristic changes to total dose and neutron exposures. Design and processing efforts are also directed to enhance survival to heavy ion (SEE) and/or dose rate (GAMMA DOT) exposure.



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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage ( $V_{GS}=0$ )	100	V
$V_{GS}$	Gate-Source Voltage	$\pm 20$	V
$I_D$	Drain Current-continuous@ $TC=37^\circ\text{C}$	40	A
$P_{tot}$	Total Dissipation@ $TC=25^\circ\text{C}$	150	W
$T_j$	Max. Operating Junction Temperature	-55~150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	0.83	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	30	$^\circ\text{C/W}$

**isc N-Channel Mosfet Transistor****FRK150****• ELECTRICAL CHARACTERISTICS (T<sub>C</sub>=25°C)**

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> = 0; I <sub>D</sub> = 1mA	100		V
V <sub>GS(TH)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> = 1mA	2	4	V
R <sub>DS(ON)</sub>	Drain-Source On-stage Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> = 25A		0.055	Ω
I <sub>GSS</sub>	Gate Source Leakage Current	V <sub>GS</sub> = ±20V; V <sub>DS</sub> = 0		100	nA
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> = 100V; V <sub>GS</sub> = 0		1	mA
V <sub>SD</sub>	Diode Forward Voltage	I <sub>F</sub> = 40A; V <sub>GS</sub> = 0		1.8	V