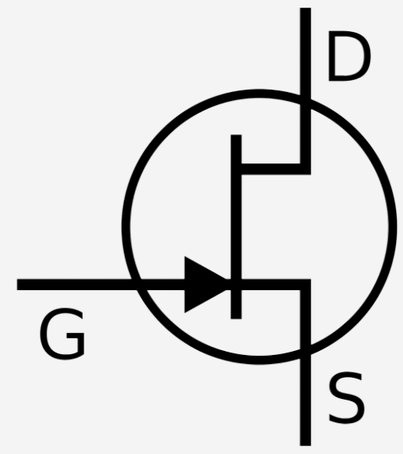
POWER TRANSISTOR

NASCENT SEMICONDUCTOR MOSFETS POWER TRANSISTOR

High reliability, high temperature, radiation tolerant Power Transistor to act as a direct drop in replacement for MOSFETs in extreme environment applications. Comprises an enhancement mode silicon carbide n-channel junction FET in hermetic sealed packaging. Optimised for 100 V, 10 A power systems, including power converters, inverters and robot control in decommissioning activities.

FEATURES

- High speed switching
- Low R_{DS} on at gate voltage of +3 V
- Maximum operating temperature 400 °C
- Maximum Total Ionising Dose in excess of 250 krad



RATINGS

25 °C Operation	Minimum	Typical	Maximum	Units
Drain - Source Blocking Voltage	250		400	V
Gate - Source Breakdown Voltage (I_{GS} = 1mA, V_{DS} = 0V)	150		275	V
Drain - Leakage Current (V_{DS} = 200V, V_{DS} = 0V)	10		500	pA
Drain - Source Resistance (V_{GS} = 3V, I_{DS} = 10A)	30		60	mOhms
Threshold Voltage		1.57		V
Gate Forward Current (V_{GS} = -20V, V_{DS} = 5V)		45		mA
Gate Current Limiting Resistance		6.4		Ohm

400 °C Operation	Minimum	Typical	Maximum	Units
Drain - Source Blocking Voltage	220		350	V
Gate - Source Breakdown Voltage (I_{GS} = 1mA, V_{DS} = 0V)	170		285	V
Drain - Leakage Current (V_{DS} = 200V, V_{DS} = 0V)	1		10	mA
Drain - Source Resistance (V_{GS} = 3V, I_{DS} = 10A)	50		100	mOhms
Threshold Voltage		0.48		V
Gate Forward Current (V_{GS} = -20V, V_{DS} = 5V)		150		mA
Gate Current Limiting Resistance		6.4		Ohm

PART NUMBER VJ100-010
POWER VERTICAL JFET

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