

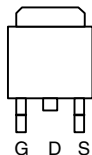
## N-Channel 200 V (D-S) 175 °C MOSFET

### PRODUCT SUMMARY

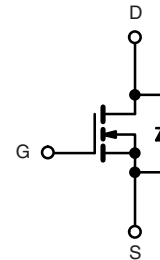
V <sub>DS</sub> (V)	R <sub>DS(on)</sub> (Ω)	I <sub>D</sub> (A)
200	0.270 at V <sub>GS</sub> = 10 V	9
	0.300 at V <sub>GS</sub> = 6 V	8.5

### FEATURES

- TrenchFET® Power MOSFETS
- 175 °C Junction Temperature
- Low Thermal Resistance Package
- Compliant to RoHS Directive 2002/95/EC


**TO-263**


Top View

**Ordering Information:** SUM09N20-270-E3 (Lead (Pb) free)


N-Channel MOSFET

### ABSOLUTE MAXIMUM RATINGS (T<sub>C</sub> = 25 °C, unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V <sub>DS</sub>	200	V
Gate-Source Voltage	V <sub>GS</sub>	± 20	
Continuous Drain Current (T <sub>J</sub> = 175 °C)	I <sub>D</sub>	T <sub>C</sub> = 25 °C	9
		T <sub>C</sub> = 125 °C	5.2
Pulsed Drain Current	I <sub>DM</sub>	10	A
Avalanche Current	I <sub>AR</sub>	7	
Repetitive Avalanche Energy <sup>a</sup>	E <sub>AR</sub>	2.45	mJ
Maximum Power Dissipation <sup>a</sup>	P <sub>D</sub>	T <sub>C</sub> = 25 °C	60 <sup>b</sup>
		T <sub>A</sub> = 25 °C <sup>c</sup>	3.75
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	- 55 to 175	°C

### THERMAL RESISTANCE RATINGS

Parameter	Symbol	Limit	Unit
Junction-to-Ambient (PCB Mount) <sup>c</sup>	R <sub>thJA</sub>	40	°C/W
Junction-to-Case (Drain)	R <sub>thJC</sub>	2.5	

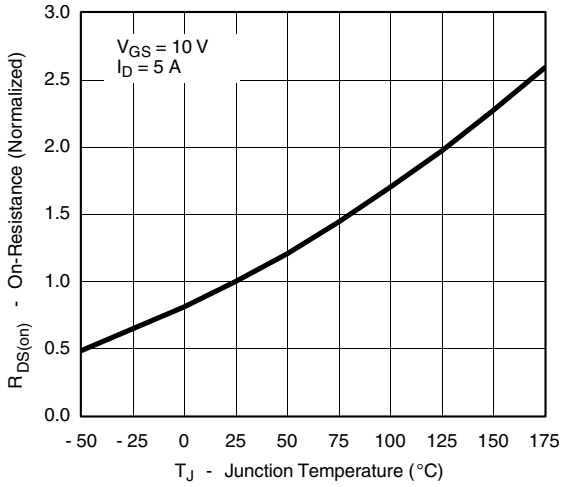
Notes:

- Duty cycle ≤ 1 %.
- See SOA curve for voltage derating.
- When mounted on 1" square PCB (FR-4 material).

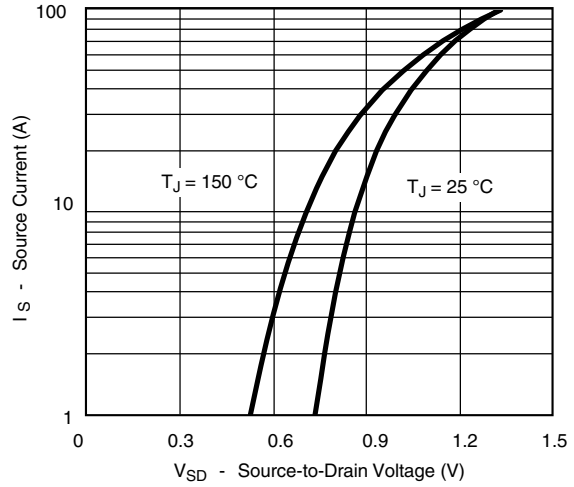




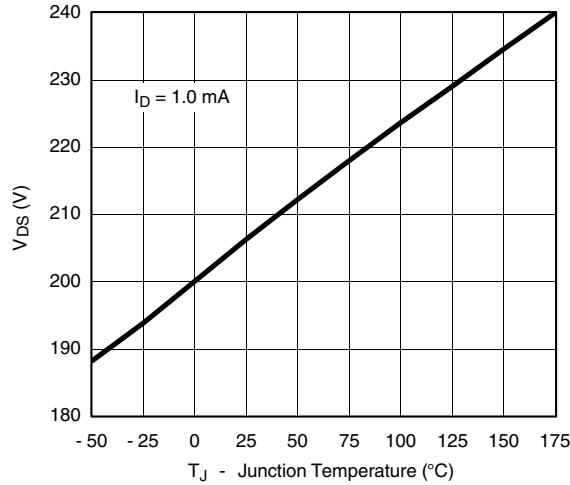
**TYPICAL CHARACTERISTICS** (25 °C unless noted)



**On-Resistance vs. Junction Temperature**

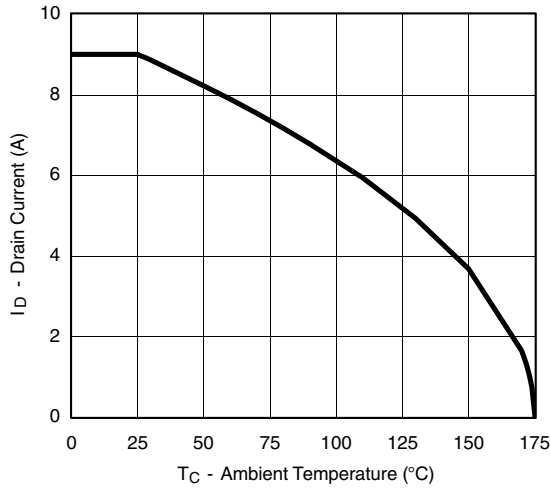


**Source-Drain Diode Forward Voltage**

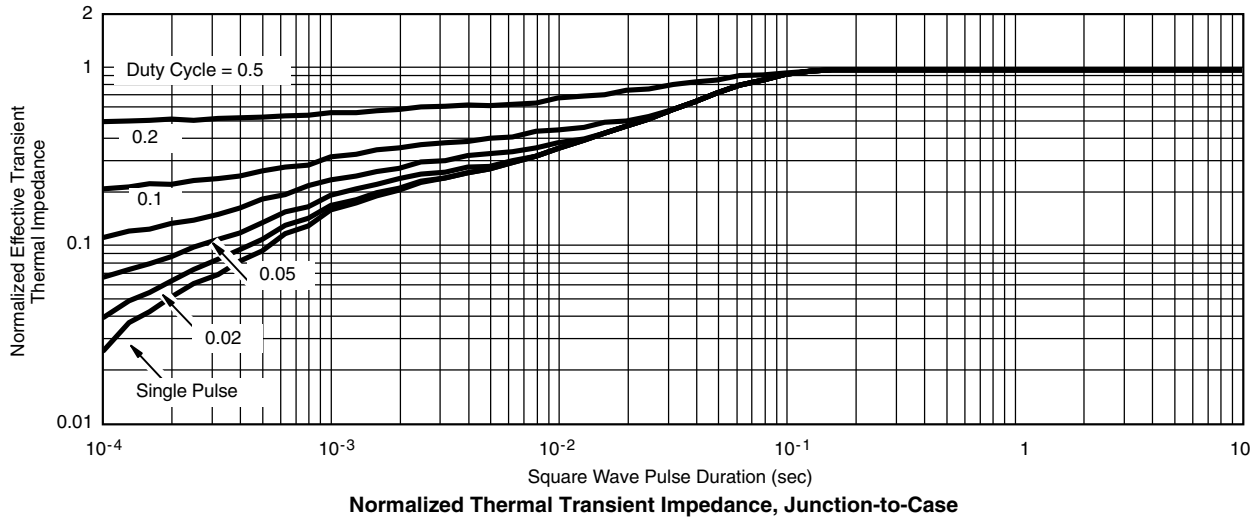
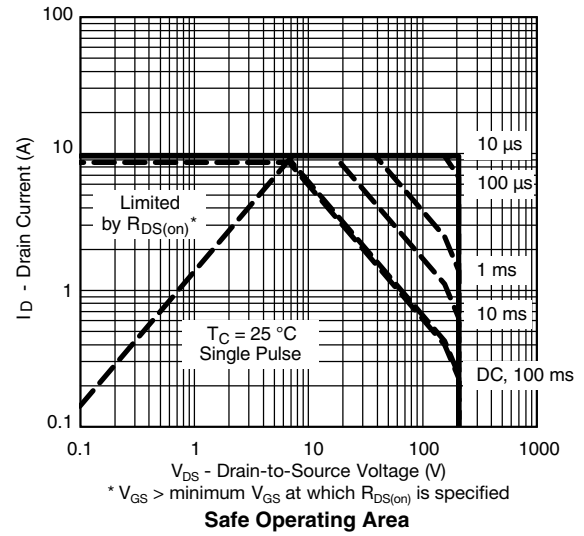


**Drain Source Breakdown vs. Junction Temperature**

**THERMAL RATINGS**



**Maximum Avalanche and Drain Current vs. Case Temperature**



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