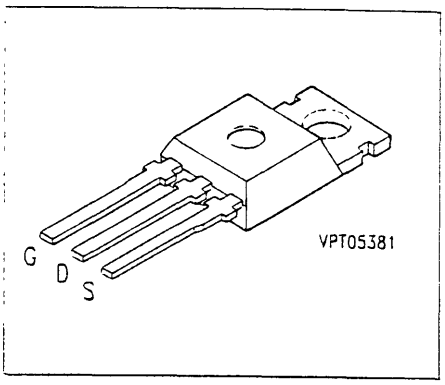
SIEMENS

523-288

SIPMOS® Power Transistors

BUZ 61
BUZ 61 A

- N channel
- Enhancement mode
- Avalanche-rated



Type	V_{DS}	I_D	$R_{DS\,(on)}$	Package [1]	Ordering Code
BUZ 61	400 V	12.5 A	0.4 Ω	TO-220 AB	C67078-S1341-A2
BUZ 61 A	400 V	11 A	0.5 Ω	TO-220 AB	C67078-S1341-A3

Maximum Ratings

Parameter	Symbol	BUZ		Unit
		61	61 A	
Continuous drain current, T_C = 27 °C	I_D	12.5	11	A
Pulsed drain current, T_C = 25 °C	$I_{D\,puls}$	50	44	
Avalanche current, limited by $T_{j\,max}$	I_{AR}	12.5		
Avalanche energy, periodic limited by $T_{j\,(max)}$	E_{AR}	13		mJ
Avalanche energy, single pulse I_D = 12.5 A, V_{DD} = 50 V, R_{GS} = 25 Ω L = 6.38 mH, T_j = 25 °C	E_{AS}	570		
Gate-source voltage	V_{GS}	± 20		V
Power dissipation, T_C = 25 °C	P_{tot}	150		W
Operating and storage temperature range	T_j , T_{stg}	– 55 ... + 150		°C

Thermal resistance, chip-case	$R_{th\,JC}$	≤ 0.83	K/W
DIN humidity category, DIN 40 040		E	–
IEC climatic category, DIN IEC 68-1		55/150/56	

1) See chapter Package Outlines.

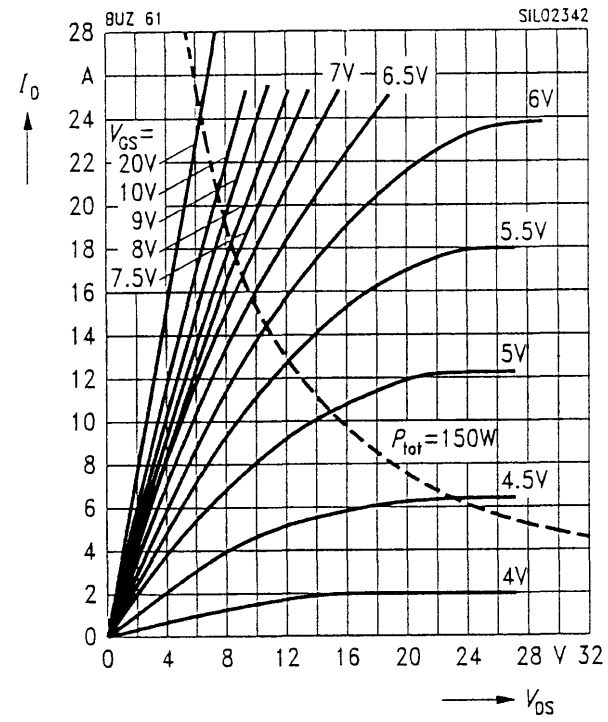
Electrical Characteristics (cont'd)
at T_j = 25 °C, unless otherwise specified.

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Reverse diode					
Continuous reverse drain current T_C = 25 °C BUZ 61 BUZ 61 A	I_S	 – –	 – –	 12.5 11.0	A
Pulsed reverse drain current T_C = 25 °C BUZ 61 BUZ 61 A	I_{SM}	 – –	 – –	 50 44	
Diode forward on-voltage I_S = 25 A, V_{GS} = 0 V	V_{SD}	–	1.1	1.4	V
Reverse recovery time V_R = 100 V, $I_F = I_S$, di_F/dt = 100 A/µs	t_{rr}	–	280	–	ns
Reverse recovery charge V_R = 100 V, $I_F = I_S$, di_F/dt = 100 A/µs	Q_{rr}	–	3	–	µC

Typ. output characteristics

$I_D = f(V_{DS})$ **BUZ 61**

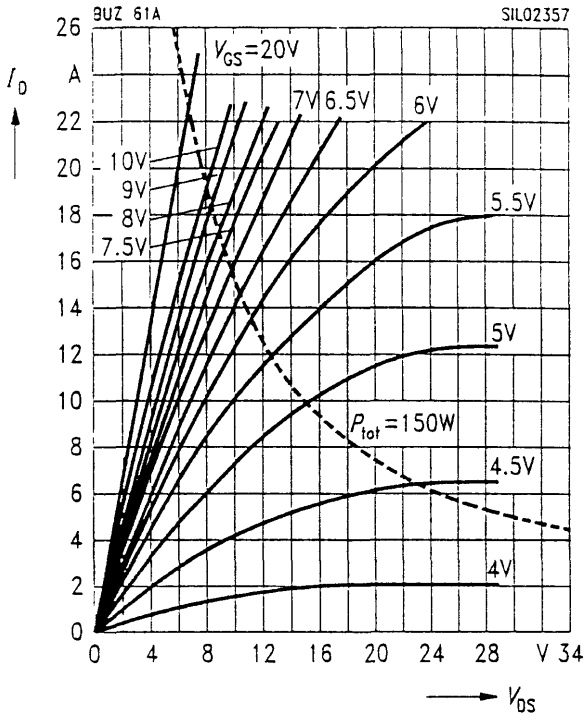
parameter: t_p = 80 µs



Typ. output characteristics

$I_D = f(V_{DS})$ **BUZ 61 A**

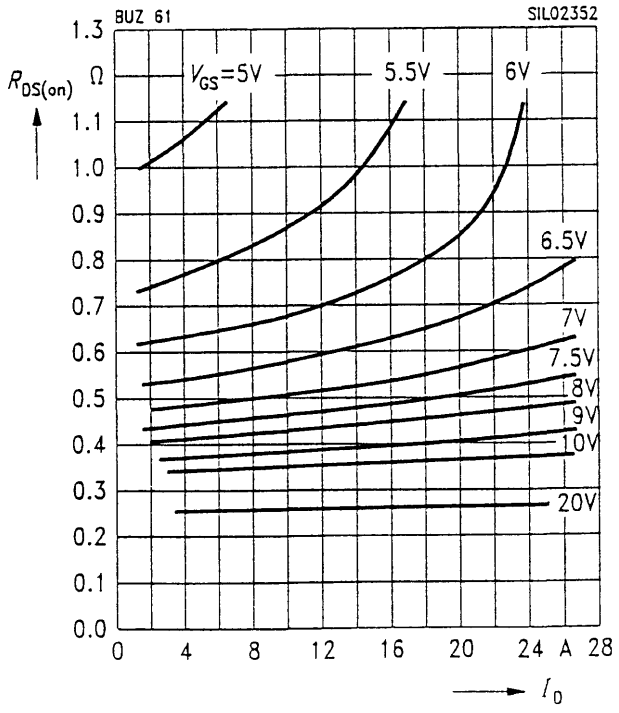
parameter: t_p = 80 µs



Typ. drain-source on-resistance

$R_{DS\,(on)} = f(I_D)$ **BUZ 61**

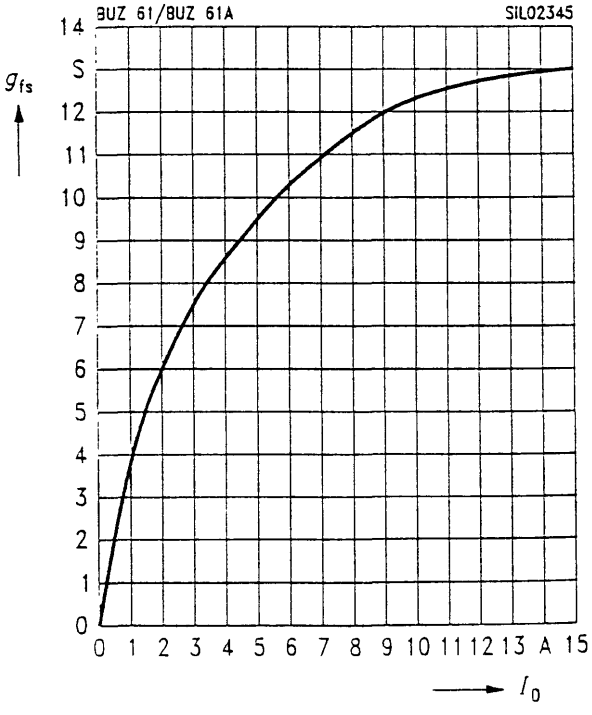
parameter: V_{GS}



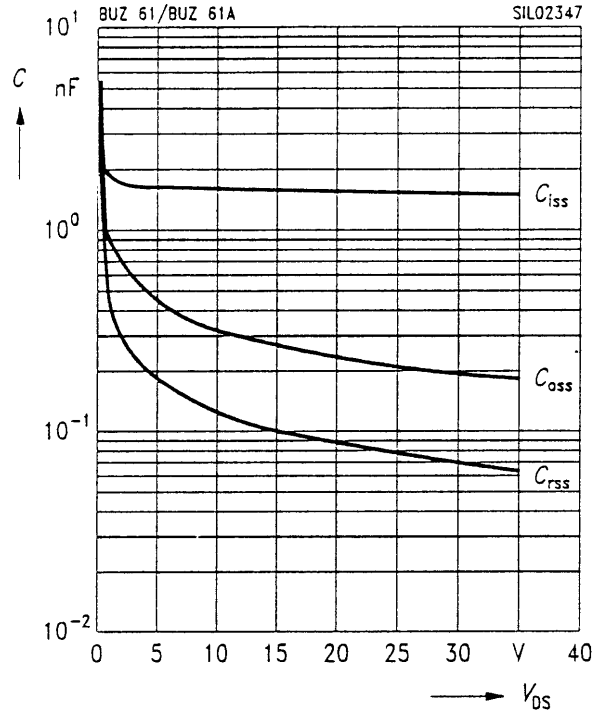
Typ. forward transconductance

$g_{fs} = f(I_D)$

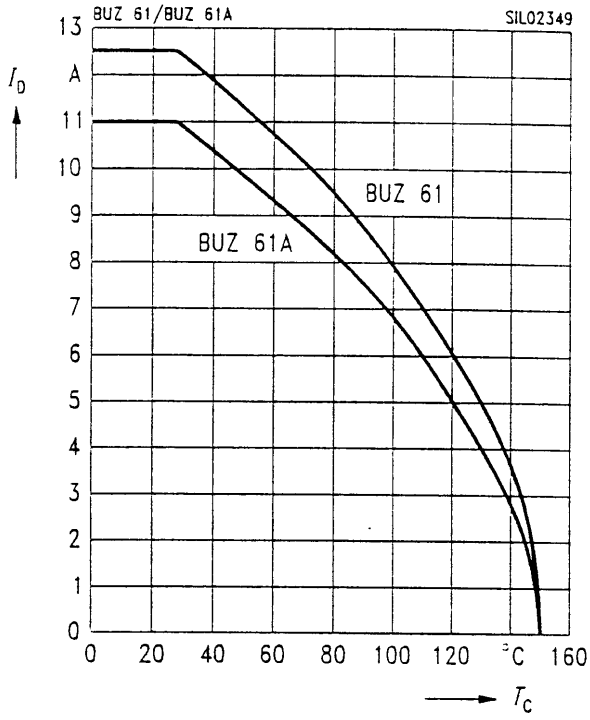
parameter: t_p = 80 µs



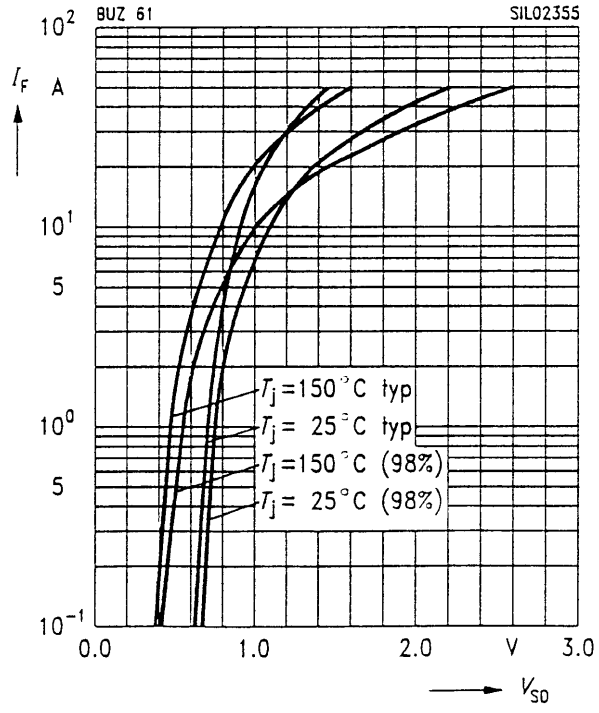
Typ. capacitances
$C = f(V_{DS})$
parameter: V_{GS} = 0 V, f = 1 MHz



Drain current
$I_D = f(T_C)$
parameter: $V_{GS} \geq 10$ V



Forward characteristics of reverse diode
$I_F = f(V_{SD})$ **BUZ 61**
parameter: T_j , t_p = 80 µs, (spread)



Avalanche energy $E_{AS} = f(T_j)$
parameter: I_D = 12.5 A, V_{DD} = 50 V
R_{GS} = 25 Ω, L = 6.38 mH