

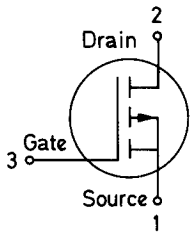
BD512

Enhancement Mode P-Channel Power VMOS Transistor

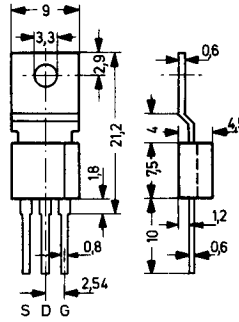
for applications needing high input impedance and fast switching times.

Features:

- High input impedance
- High speed switching
- No minority carrier storage time
- CMOS logic compatible input
- No thermal runaway
- No secondary breakdown
- Paralleling is simple
- Heat sink connected to drain



Graphic Symbol



Plastic case TO-202
(34 A 3, DIN 41 869)

Weight approximately 1.5 g
Dimensions in mm

Absolute Maximum Ratings

	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	-60	V
Drain-Gate Voltage	V_{DGS}	-60	V
Continuous Drain Current	I_D	-1.5	A
Power Dissipation at 25 °C Case Temperature	P_{tot}	10	W
at 25 °C Free Air Temperature	P_{tot}	1.75	W
Temperature (Operating and Storage)	T_j, T_s	-55 to +150	°C

Characteristics at $T_j = 25\text{ }^\circ\text{C}$

	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage at $V_{GS} = 0, -I_D = 100\text{ }\mu\text{A}$	$-V_{(BR)DSS}$	60	80	—	V
Gate Threshold Voltage at $V_{GS} = V_{DS}, -I_D = 1\text{ mA}$	$-V_{GS(th)}$	1.0	—	3.5	V
Gate-Body Leakage Current at $-V_{GS} = 15\text{ V}, V_{DS} = 0$	$-I_{GSS}$	—	—	100	nA
Drain Cutoff Current at $V_{GS} = 0, -V_{DS} = 25\text{ V}$	$-I_{D(off)}$	—	—	0.5	μA
Drain-Source On Resistance ¹⁾ at $-V_{GS} = 10\text{ V}, -I_D = 1\text{ A}$	$r_{DS(on)}$	—	4.5	7	Ω
Thermal Resistance Chip to Heat Sink Chip to Ambient	R_{thS} R_{thA}	— —	— —	12.5 70	K/W K/W
Forward Transconductance ¹⁾ at $-V_{DS} = 10\text{ V}, -I_D = 0.5\text{ A}, f = 1\text{ MHz}$	g_m	—	300	—	mS
Input Capacitance at $V_{GS} = 0, -V_{DS} = 10\text{ V}, f = 1\text{ MHz}$	C_{iss}	—	140	—	pF
Turn On Time Turn Off Time	t_{on} t_{off}	— —	4 4	10 10	ns ns

¹⁾ Pulse Test Width $-80\text{ }\mu\text{s}$; Pulse Duty Factor 1%.

