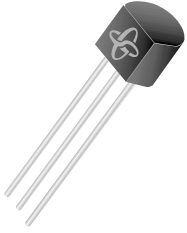
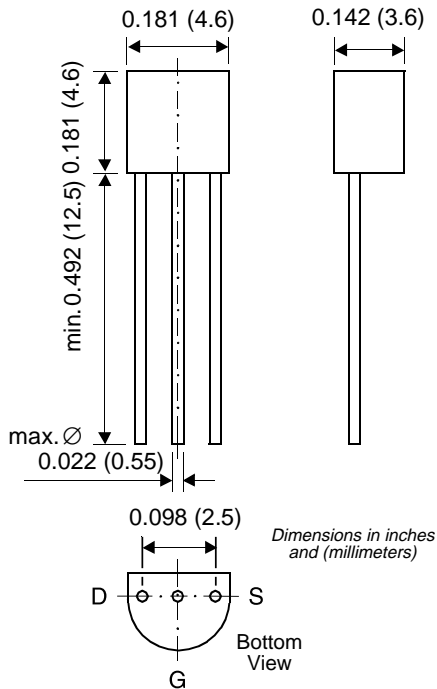


DMOS Transistor (P-Channel)



TO-226AA (TO-92)



Features

- High input impedance
- High-speed switching
- No minority carrier storage time
- CMOS logic compatible input
- No thermal runaway
- No secondary breakdown
- On special request, this transistor is also manufactured in the pin configuration TO-18.

Mechanical Data

Case: TO-92 Plastic Package

Weight: approx. 0.18 grams

Packaging Codes/Options:

E6/Bulk- 5K per container

E7/4K per Ammo tape

Maximum Ratings and Thermal Characteristics (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	-V _{DSS}	60	V
Drain-Gate Voltage	-V _{DGS}	60	V
Gate-Source-Voltage (pulsed)	V _{GS}	±20	V
Drain Current (continuous)	-I _D	250	mA
Power Dissipation at T _{amb} = 25°C	P _{tot}	0.83 ⁽¹⁾	W
Thermal Resistance Junction to Ambient Air	R _{θJA}	150 ⁽¹⁾	°C/W
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _S	-65 to +150	°C

Note:

(1) Valid provided that leads are kept at ambient temperature at a distance of 2mm from case.

DMOS Transistor (P-Channel)
Electrical Characteristics ($T_J = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$-V_{(BR)DSS}$	$-I_D = 100\ \mu\text{A}$, $V_{GS} = 0$	60	70	—	V
Gate-Source Threshold Voltage	$-V_{GS(th)}$	$V_{GS} = V_{DS}$, $-I_D = 1\ \text{mA}$	1.0	2.0	3.0	V
Gate-Body Leakage Current	$-I_{GSS}$	$-V_{GS} = 15\ \text{V}$, $V_{DS} = 0$	—	—	20	nA
Drain Cutoff Current	$-I_{DSS}$	$-V_{DS} = 25\ \text{V}$, $V_{GS} = 0$	—	—	0.5	μA
Drain-Source ON Resistance	$R_{DS(on)}$	$-V_{GS} = 10\ \text{V}$, $-I_D = 0.2\ \text{A}$	—	3.5	5.0	Ω
Forward Transconductance	g_m	$-V_{DS} = 10\ \text{V}$, $-I_D = 0.2\ \text{A}$ $f = 1\ \text{MHz}$	—	150	—	mS
Input Capacitance	C_{iss}	$-V_{DS} = 10\ \text{V}$, $V_{GS} = 0$, $f = 1\ \text{MHz}$	—	60	—	pF
Turn-On Time	t_{on}	$-V_{GS} = 10\ \text{V}$, $-V_{DS} = 10\ \text{V}$ $R_D = 100\ \Omega$	—	5	—	ns
Turn-Off Time	t_{off}		—	25	—	ns

Inverse Diode

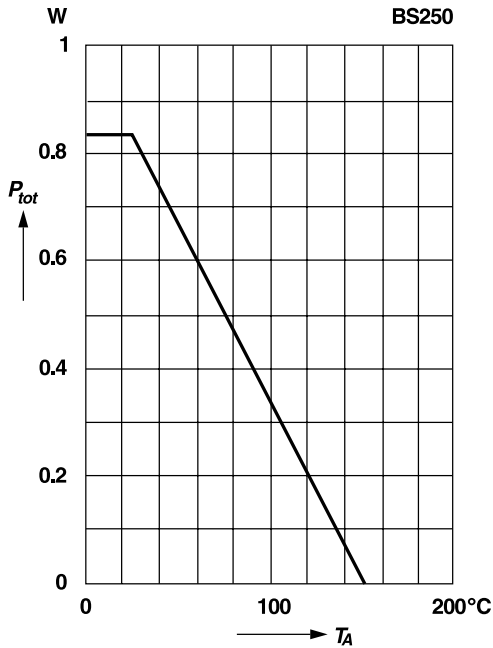
Parameters	Symbol	Test Condition	Value	Unit
Maximum Forward Current (continuous)	I_F	$T_{amb} = 25^\circ\text{C}$	0.3	A
Forward Voltage Drop (typ.)	V_F	$V_{GS} = 0$, $I_F = 0.12\ \text{A}$ $T_J = 25^\circ\text{C}$	0.85	V

DMOS Transistor (P-Channel)

Ratings and Characteristic Curves

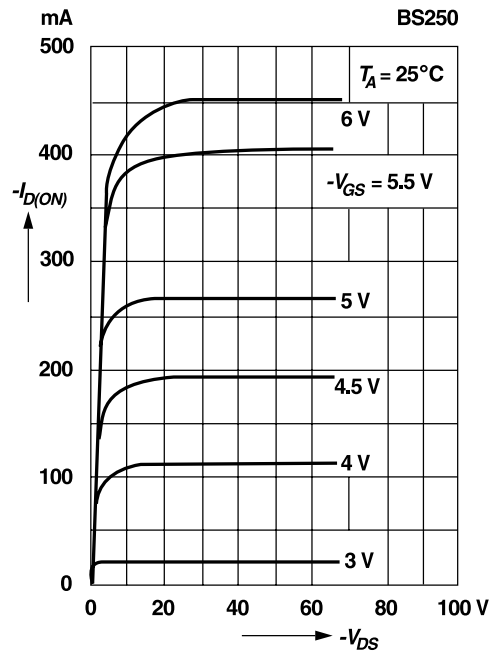
Admissible power dissipation versus temperature

Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case



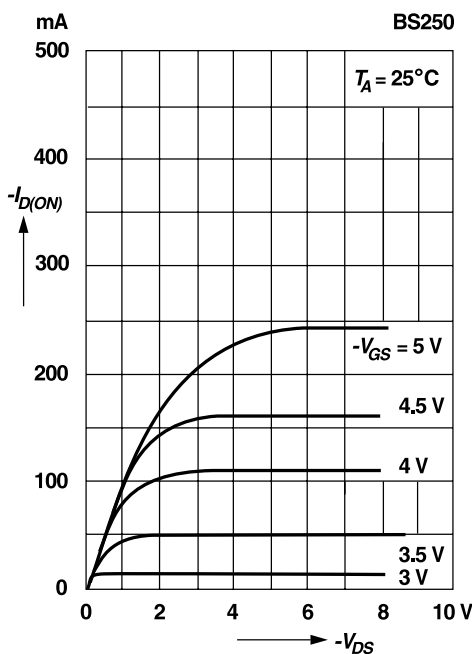
Output characteristics

Pulse test width 80 ms; pulse duty factor 1%

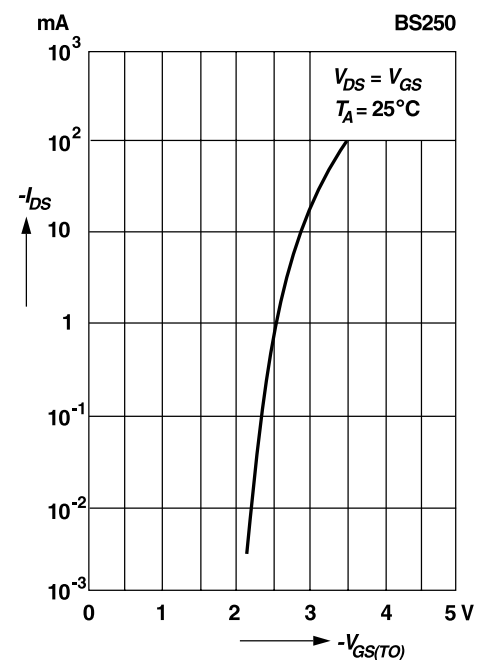


Saturation characteristics

Pulse test width 80 ms; pulse duty factor 1%



Drain-source current versus gate threshold voltage

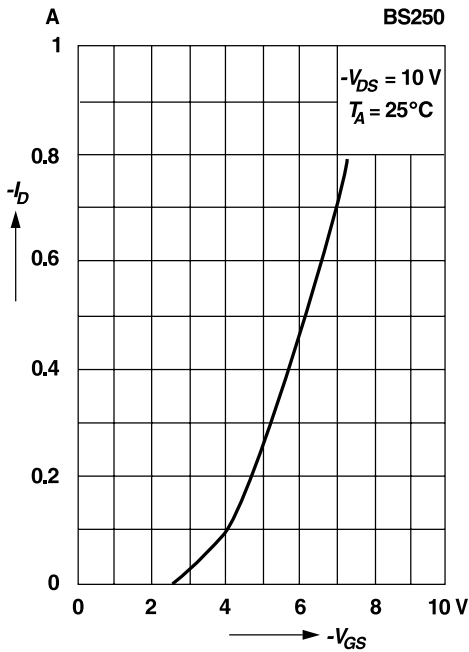


DMOS Transistor (P-Channel)

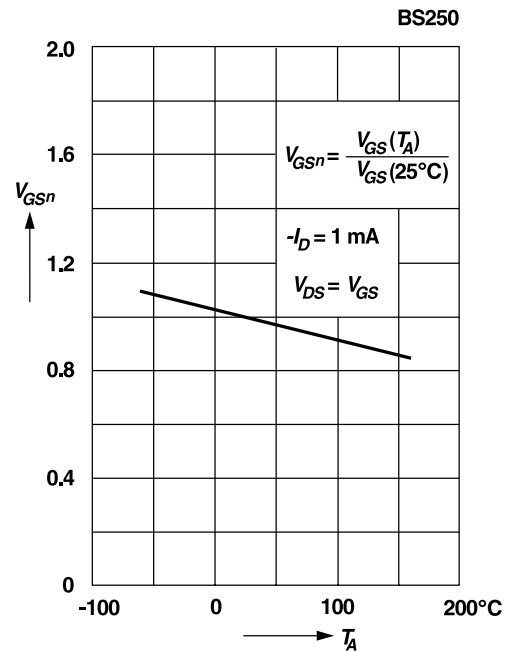
Ratings and Characteristic Curves

Drain current versus gate-source voltage

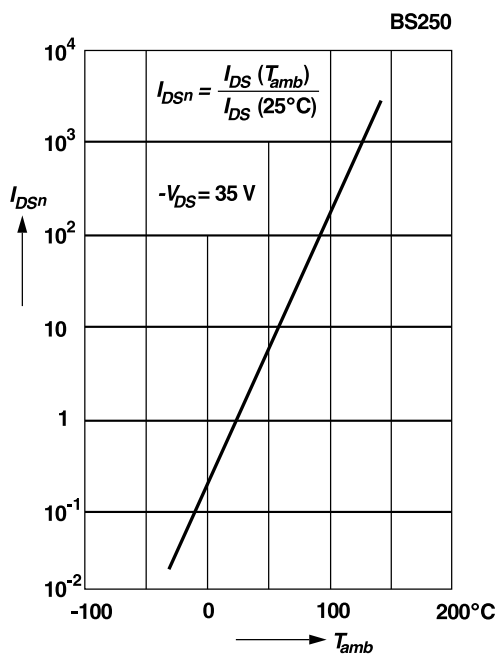
Pulse test width 80 ms; pulse duty factor 1%



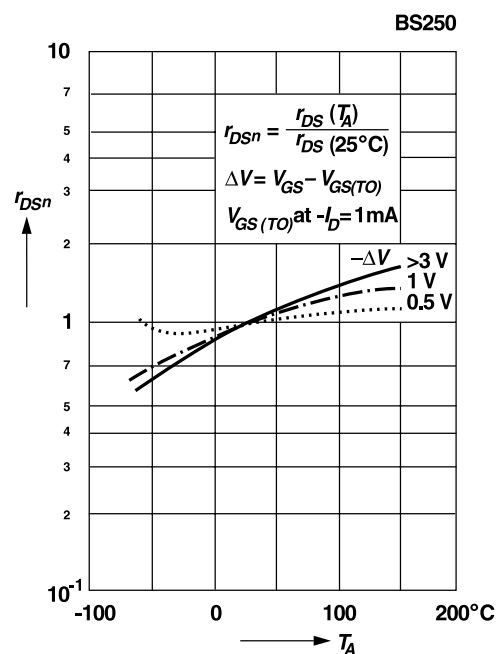
Normalized gate-source voltage versus temperature



Normalized drain-source current versus temperature



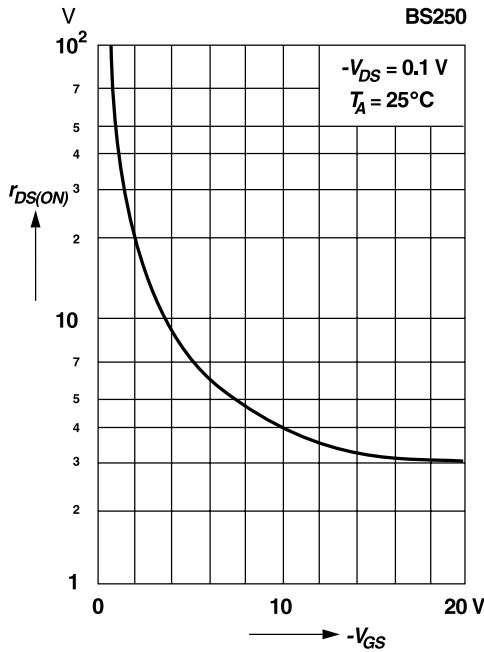
Normalized drain-source resistance versus temperature



DMOS Transistor (P-Channel)

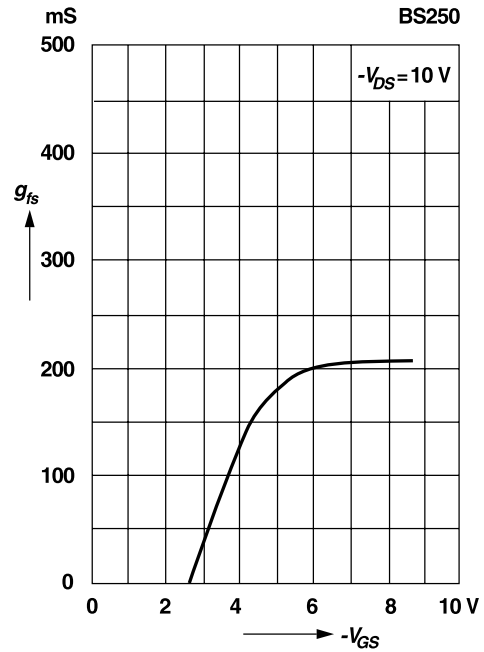
Ratings and Characteristic Curves

Drain-source resistance versus gate-source voltage



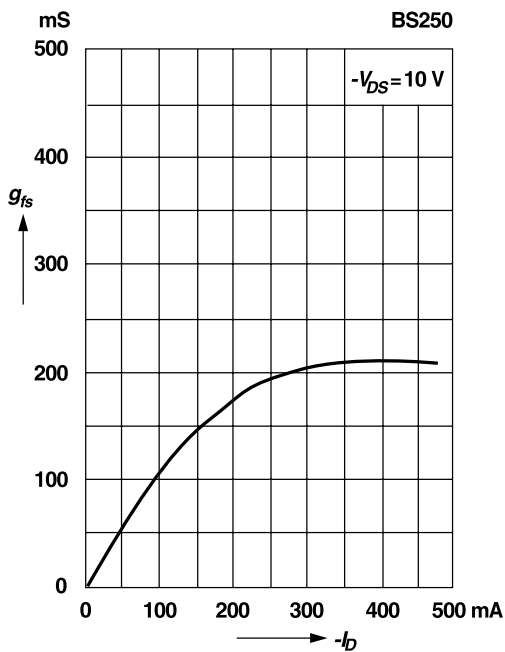
Transconductance versus gate-source voltage

Pulse test width 80 ms; pulse duty factor 1%



Transconductance versus drain current

Pulse test width 80 ms; pulse duty factor 1%



Capacitance versus drain-source voltage

