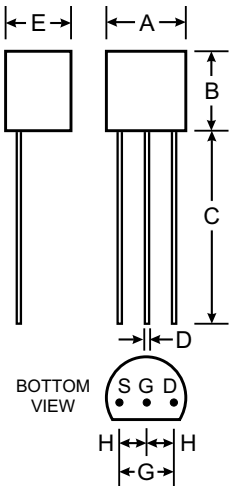
BS250

P-CHANNEL ENHANCEMENT MODE DMOS TRANSISTOR

Features

- High Input Impedance
- Fast Switching Speed
- CMOS Logic Compatible Input
- No Thermal Runaway or Secondary Breakdown



TO-92		
Dim	**Min**	**Max**
A	4.45	4.70
B	4.46	4.70
C	12.7	—
D	0.41	0.63
E	3.43	3.68
G	2.42	2.67
H	1.14	1.40
All Dimensions in mm		

Mechanical Data

- Case: TO-92, Plastic
- Leads: Solderable per MIL-STD-202, Method 208
- Pin Connection: See Diagram
- Approx Weight: 0.18 grams

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	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 @T_C = 25°C (Note 1)	P_d	830	mW
Operating and Storage Temperature Range	T_j, T_{STG}	-55 +150	°C

Inverse Diode @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Maximum Forward Current (continuous)	I_F	0.15	A
Forward Voltage Drop (Typ.) @ V_{GS} = 0, I_F = 0.15A, T_j = 25°C	V_F	0.85	V

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Drain-Source Breakdown Voltage	$-V_{(BR)DSS}$	60	70	—	V	I_D = 100µA, V_{GS} = 0
Gate Threshold Voltage	$-V_{GS(th)}$	—	1.0	3.0	V	V_{GS} = V_{DS}, $-I_D$ = 1.0mA
Gate-Body Leakage Current	$-I_{GSS}$	—	—	20	nA	$-V_{GS}$ = 15V, V_{DS} = 0
Drain-Source Cutoff Current	$-I_{DSS}$	—	—	0.5	µA	$-V_{DS}$ = 25V, V_{GS} = 0
Drain-Source ON Resistance	$r_{DS\ (ON)}$	—	3.5	5.0	Ω	$-V_{GS}$ = 10V, $-I_D$ = 0.2A
Thermal Resistance, Junction to Ambient Air	$R_{\theta JA}$	—	—	150	K/W	Note 1
Forward Transconductance	g_{FS}	—	150	—	mS	$-V_{DS}$ = 10V, $-I_D$ = 0.2A, f = 1.0MHz
Input Capacitance	C_{iss}	—	60	—	pF	$-V_{DS}$ = 10V, V_{GS} = 0, f = 1.0MHz
Switching Times Turn On Time Turn Off Time	 t_{on} t_{off}	 — —	 5 25	 — —	ns	$-V_{GS}$ = 10V, $-V_{DS}$ = 10V, R_D = 100Ω

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

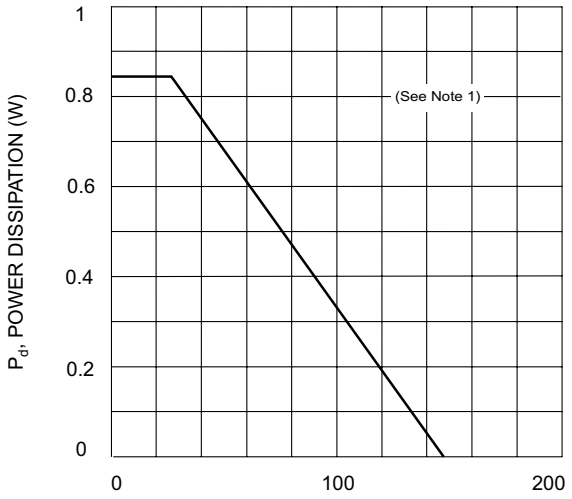


Fig. 1, Power Derating Curve

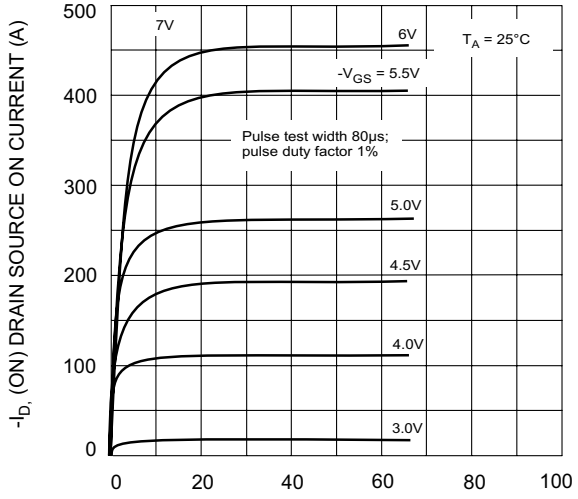


Fig. 2, Output Characteristics

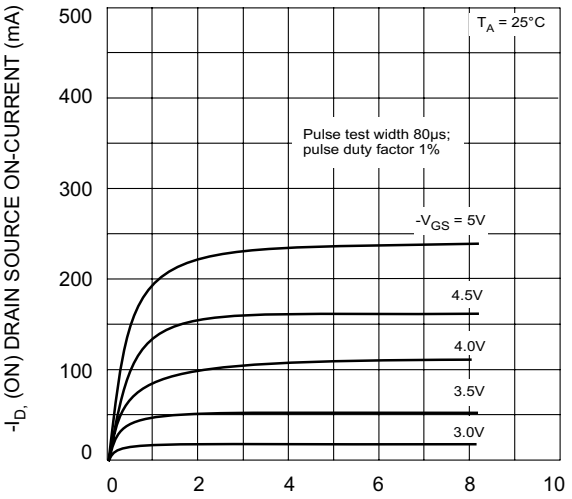


Fig. 3, Saturation Characteristics

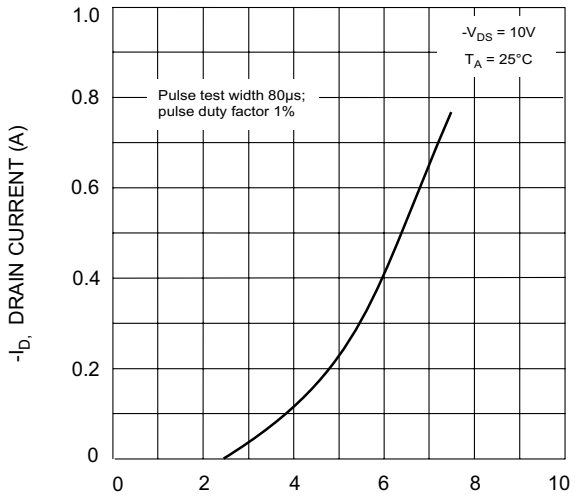


Fig. 4, Drain Current vs Gate-Source Voltage

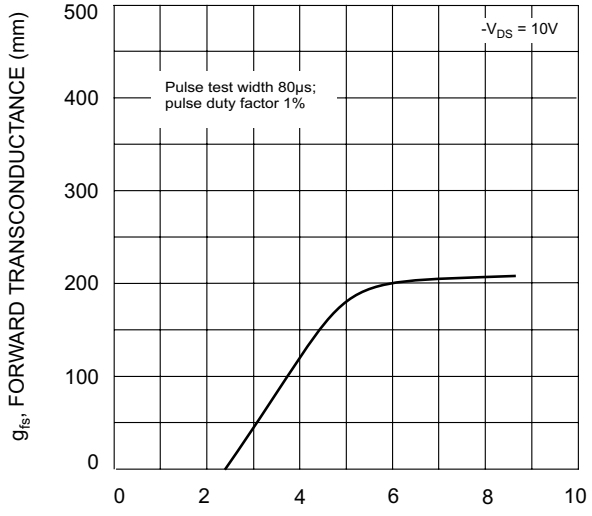


Fig. 5, Transconductance vs Gate-Source Voltage

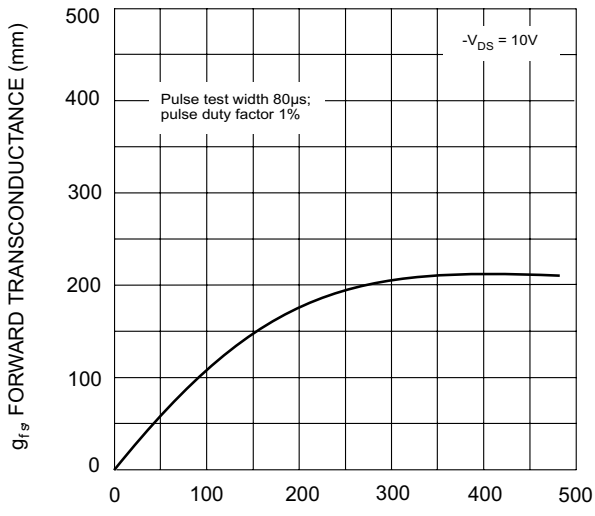


Fig. 6, Transconductance vs. Drain Current