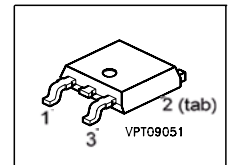


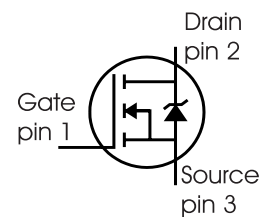
Power Transistor

$V_{DS} @ T_{jmax}$	500	V
$R_{DS(on)}$	0.1	Ω
I_D	10	A

PG-TO252



Type	Package	Ordering Code	Marking
	PG-TO252		



Maximum Ratings, at $T_C = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Value	Unit
Continuous drain current	I_D	10	A
Gate source voltage	V_{GS}	± 20	V

Electrical Characteristics

Parameter	Symbol	Conditions	Values			Unit
			min.	typ.	max.	
Drain-Source avalanche breakdown voltage	$V_{(BR)DS}$	$V_{GS}=0V, I_D=5A$	-	500	-	V
Gate threshold voltage	$V_{GS(th)}$	$I_D=350\mu A, V_{GS}=V_{DS}$	2.1	3	3.9	
Drain-source on-state resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=5A$ $T_j=25^\circ\text{C}$	-	0.1	0.2	Ω

Electrical Characteristics, at $T_j = 25\text{ }^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Conditions	Values			Unit
			min.	typ.	max.	
Transconductance	g_{fs}	$V_{DS} \geq 2 \cdot I_D \cdot R_{DS(on)max}$, $I_D = 5\text{A}$	-	6	-	S
Input capacitance	C_{iss}	$V_{GS} = 0\text{V}$, $V_{DS} = 25\text{V}$, $f = 1\text{MHz}$	-	750	-	pF
Output capacitance	C_{oss}		-	350	-	
Reverse transfer capacitance	C_{rss}		-	12	-	
Effective output capacitance, ⁴⁾ energy related	$C_{o(er)}$	$V_{GS} = 0\text{V}$, $V_{DS} = 0\text{V to } 400\text{V}$	-	56	-	pF
Effective output capacitance, ⁵⁾ time related	$C_{o(tr)}$		-	30	-	

Gate to source charge	Q_{gs}	$V_{DD} = 400\text{V}$, $I_D = 5\text{A}$	-	3	-	nC
Gate to drain charge	Q_{gd}		-	17	-	
Gate charge total	Q_g	$V_{DD} = 400\text{V}$, $I_D = 5\text{A}$, $V_{GS} = 0\text{ to } 10\text{V}$	-	32	-	
Gate plateau voltage	$V_{(plateau)}$	$V_{DD} = 400\text{V}$, $I_D = 5\text{A}$	-	5	-	V

Inverse diode forward voltage	V_{SD}	$V_{GS} = 0\text{V}$, $I_F = 5\text{A}$	-	1	1.2	V
Reverse recovery time	t_{rr}	$V_R = 400\text{V}$, $I_F = 5\text{A}$	-	1	-	ns
Reverse recovery charge	Q_{rr}		-	3.6	-	nC

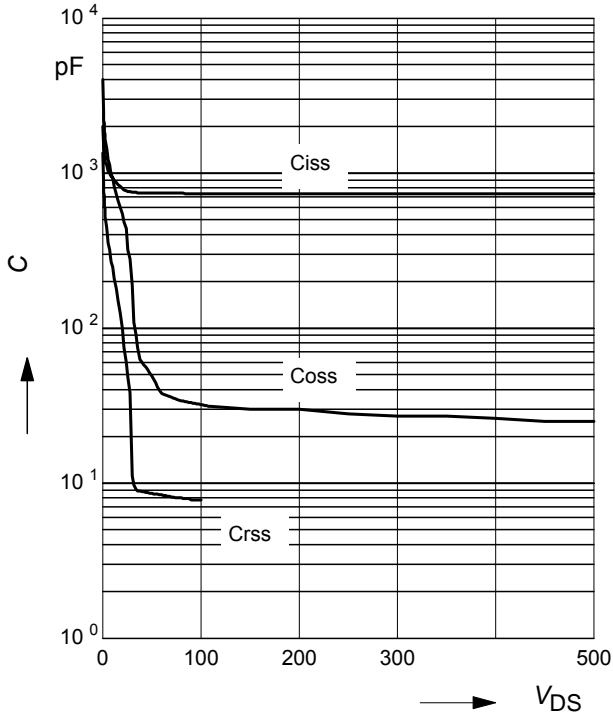
⁴ $C_{o(er)}$ is a fixed capacitance that gives the same stored energy as C_{oss} while V_{DS} is rising from 0 to 80% V_{DSS} .

⁵ $C_{o(tr)}$ is a fixed capacitance that gives the same charging time as C_{oss} while V_{DS} is rising from 0 to 80% V_{DSS} .

15 Typ. capacitances

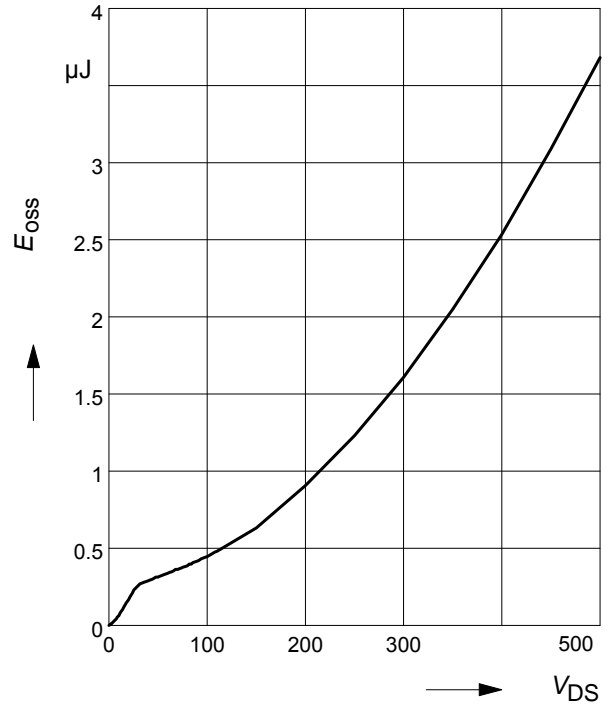
$$C = f(V_{DS})$$

parameter: $V_{GS}=0V, f=1\text{ MHz}$



16 Typ. C_{oss} stored energy

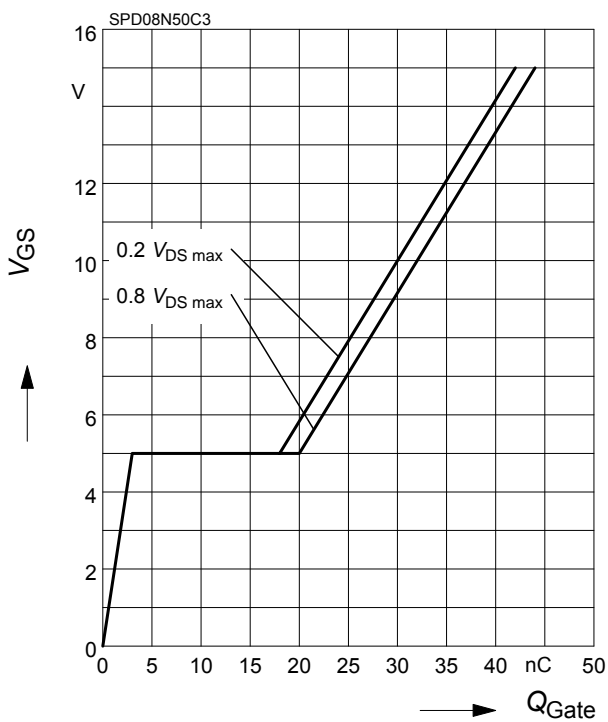
$$E_{oss} = f(V_{DS})$$



9 Typ. gate charge

$$V_{GS} = f(Q_{Gate})$$

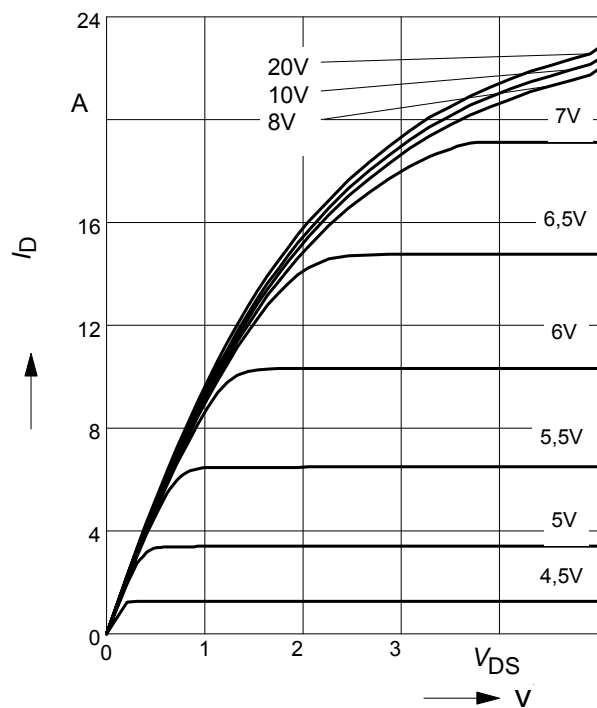
parameter: $I_D = 5\text{ A pulsed}$



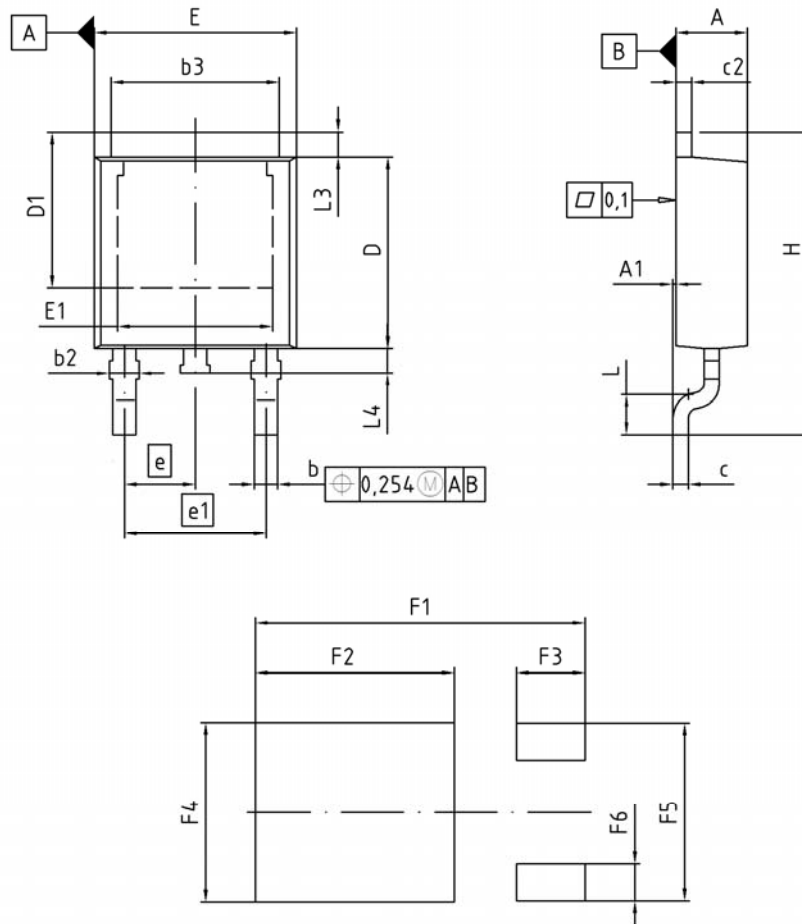
4 Typ. output characteristic

$$I_D = f(V_{DS}); T_j = 25^\circ\text{C}$$

parameter: $t_p = 10\ \mu\text{s}, V_{GS}$



PG-TO252-3-1, PG-TO252-3-11, PG-TO252-3-21 (D-PAK)



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.16	2.41	0.085	0.095
A1	0.00	0.15	0.000	0.006
b	0.64	0.89	0.025	0.035
b2	0.65	1.15	0.026	0.045
b3	5.00	5.50	0.197	0.217
c	0.46	0.60	0.018	0.024
c2	0.46	0.98	0.018	0.039
D	5.97	6.22	0.235	0.245
D1	5.02	5.84	0.198	0.230
E	6.40	6.73	0.252	0.265
E1	4.70	5.21	0.185	0.205
e	2.29		0.090	
e1	4.57		0.180	
N	3		3	
H	9.40	10.48	0.370	0.413
L	1.18	1.70	0.046	0.067
L3	0.90	1.25	0.035	0.049
L4	0.51	1.00	0.020	0.039
F1	10.50	10.70	0.413	0.421
F2	6.30	6.50	0.248	0.256
F3	2.10	2.30	0.083	0.091
F4	5.70	5.90	0.224	0.232
F5	5.66	5.86	0.223	0.231
F6	1.10	1.30	0.043	0.051

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SCALE

0 2.0 4mm

EUROPEAN PROJECTION

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REVISION
03