

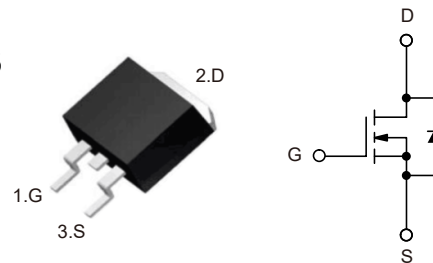
1.Features

- $V_{DS(V)}=100V$
- $I_D=80A$
- $R_{DS(ON)}<5.9m\Omega(V_{GS}=10V)$
- Ideal for high-frequency switching and synchronous rectification
- Very low on-resistance $R_{DS(ON)}$
- 175 °C operating temperature
- Pb-free lead plating
- Excellent gate charge x $R_{DS(ON)}$ product (FOM)

2.Pinning information

Pin	Symbol	Description
1	G	GATE
2	D	DRAIN
3	S	SOURCE

TO-263



3.Absolute Maximum Ratings $T_J=25^{\circ}C$

Parameter	Symbol	Conditions	Min.	Max.	Units
Continuous drain current	I_D	$T_C=25^{\circ}C$ ¹⁾		80	A
		$T_C=100^{\circ}C$		73	A
Pulsed drain current ¹⁾	$I_{D,pulse}$	$T_C=25^{\circ}C$		320	A
Avalanche current, single pulse	E_{AS}	$I_D=80A, R_{GS}=25\Omega$		160	mJ
Gate source voltage	V_{GS}		-20	20	V
Power dissipation	P_{tot}	$T_C=25^{\circ}C$		150	W
storage temperature	T_J, T_{STG}		-55	175	$^{\circ}C$



4.Thermal resistance rating

Parameter	Symbol	Max	Units
Thermal resistance, junction -case	R_{thJC}	1	K/W
Thermal resistance, junction -ambient,minimal footprint	R_{thJA}	62	K/W
Thermal resistance,junction -ambient.6 cm' cooling area ²⁾	R_{thJA}	40	K/W



5. Electrical Characteristic (T_J=25°C unless otherwise noted)

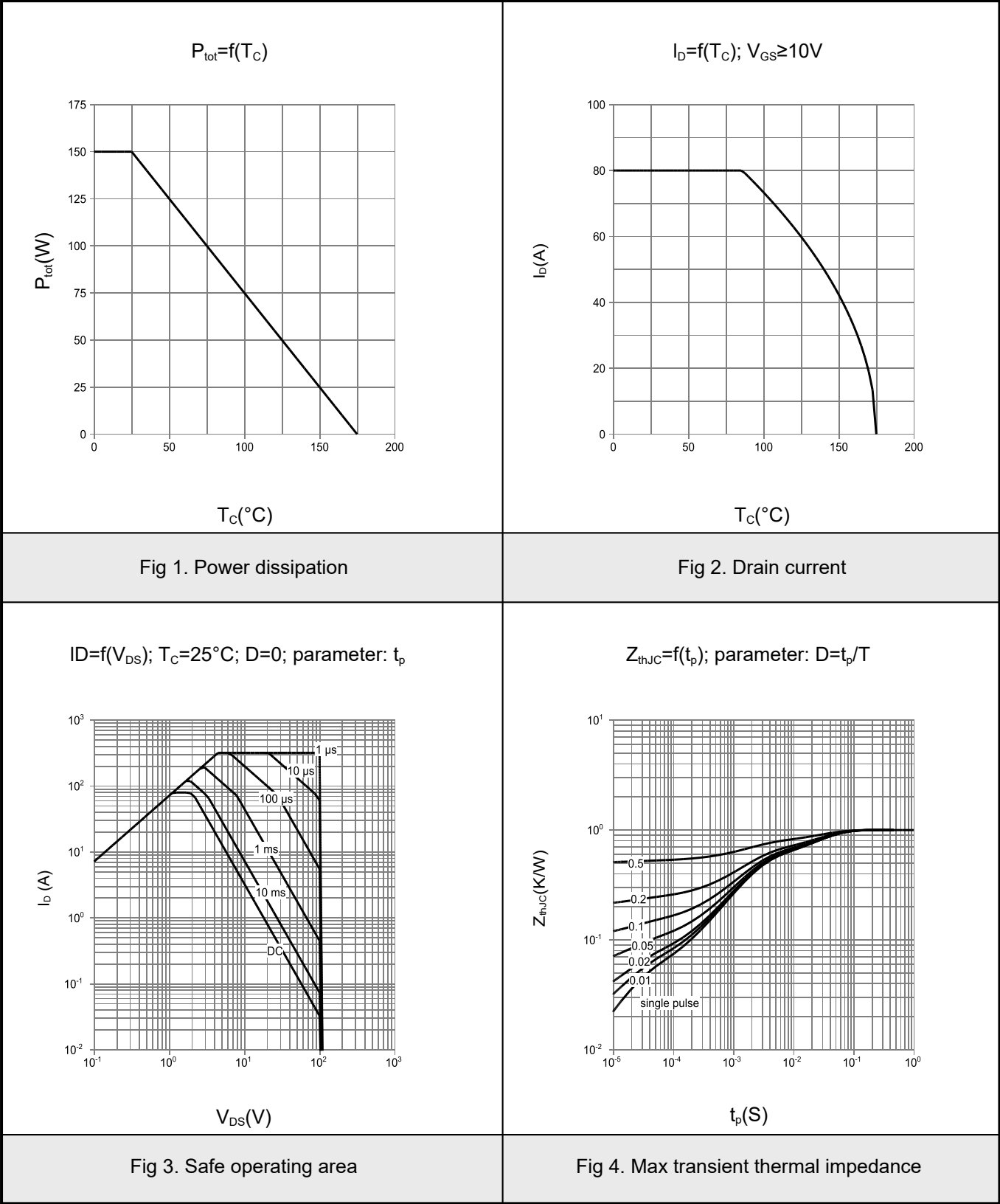
Parameter	Symbol	Conditions	Min	Typ	Max	Units
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =1mA	100			V
Gate threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =90μA	2	2.7	3.5	V
Zero gate voltage drain current	I _{DSS}	V _{DS} =100V, V _{GS} =0V, T _J =25°C		0.1	1	μA
		V _{DS} =100V, V _{GS} =0V, T _J =125°C		10	100	μA
Gate-source leakage current	I _{GSS}	V _{GS} =20V, V _{DS} =0V		1	100	nA
Drain-source on-state resistance	R _{DS(ON)}	V _{GS} =10V, I _D =80A		5.9	6.5	mΩ
		V _{GS} =6V, I _D =40A		7.3	12.4	mΩ
Gate resistance ¹⁾	R _G			1.6	2.4	Ω
Transconductance	g _{FS}	V _{DS} >2 I _D R _{DS(ON)max} , I _D =80 A	50	99		S
Input capacitance	C _{iss}	V _{GS} =0V, V _{DS} =50V, f=1MHz		3690	4910	pF
Output capacitance	C _{oss}			646	859	pF
Reverse transfer capacitance	C _{rss}			25	44	pF
Turn-on delay time	t _{D(on)}	V _{DD} =50V, V _{GS} =10V I _D =80A, R _{G,ext} =1.6Ω		19		ns
Rise time	t _r			37		ns
Turn-off delay time	t _{D(off)}			37		ns
Fall time	t _f			9		ns
Gate to source charge	Q _{gs}	V _{DD} =50V, I _D =80A V _{GS} =0 to 10V		18		nC
Gate to drain charge ¹⁾	Q _{gd}			10	15	nC
Switching charge	Q _{SW}			16		nC
Gate charge total	Q _g			51	64	nC
Gate plateau voltage	V _{plateau}			4.9		V
Output charge ¹⁾	Q _{oss}	V _{DD} =50V, V _{GS} =0V		68	91	nC



Diode continuous forward current	I_S	$T_C=25^{\circ}\text{C}$			80	A
Diode pulse current	$I_{S,pulse}$	$T_C=25^{\circ}\text{C}$			320	A
Diode forward voltage	V_{SD}	$V_{GS}=0\text{V}, I_F=80\text{A}, T_J=25^{\circ}\text{C}$		1	1.2	V
Reverse recovery time ¹⁾	t_{rr}	$V_R=50\text{V}, I_F=I_S, di_F/dt=100\text{A}/\mu\text{s}$		73	146	ns
Reverse recovery charge ¹⁾	Q_{rr}	$V_R=50\text{V}, I_F=I_S, di_F/dt=100\text{A}/\mu\text{s}$		139	278	nC

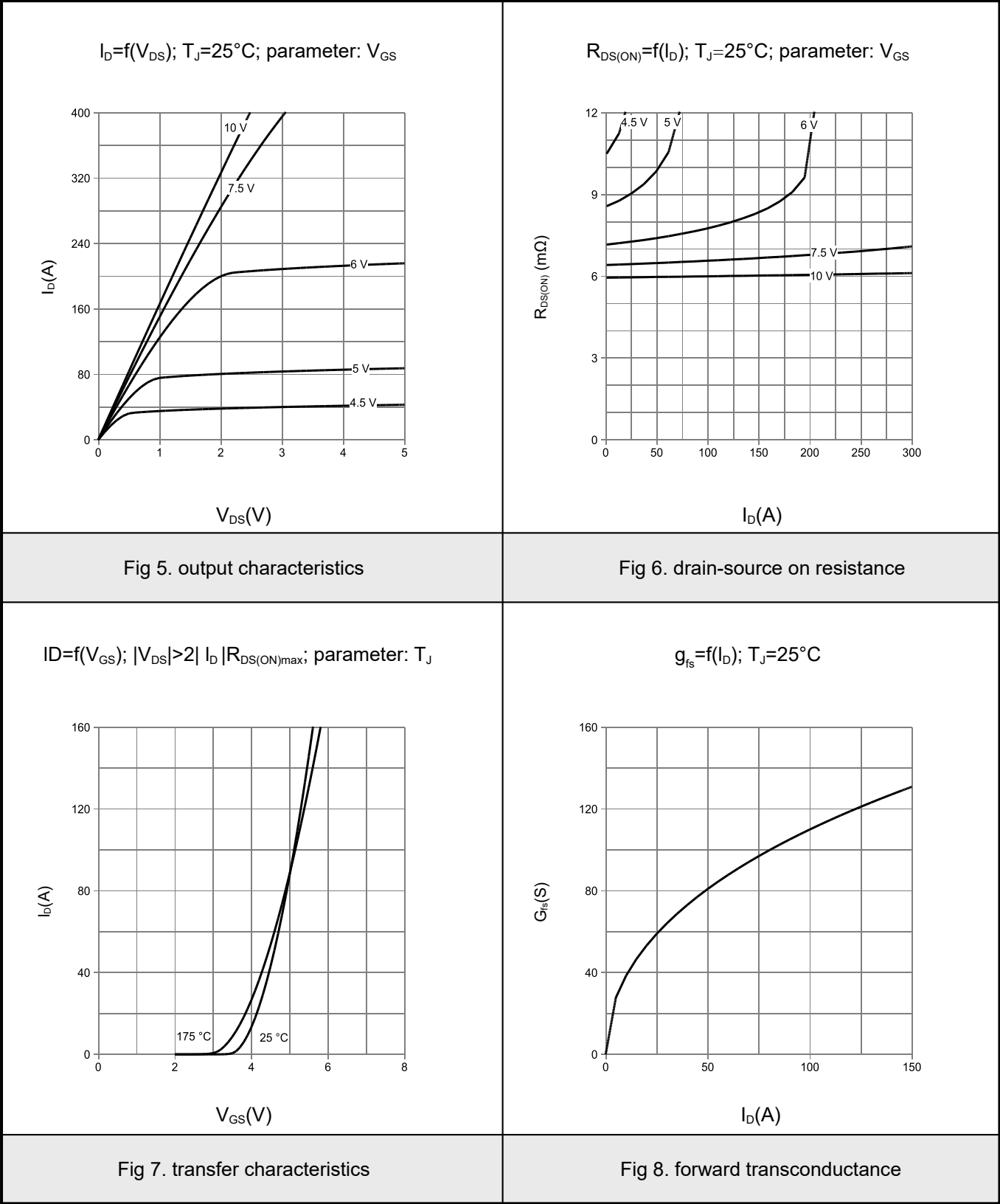


6.1Typical characteristic



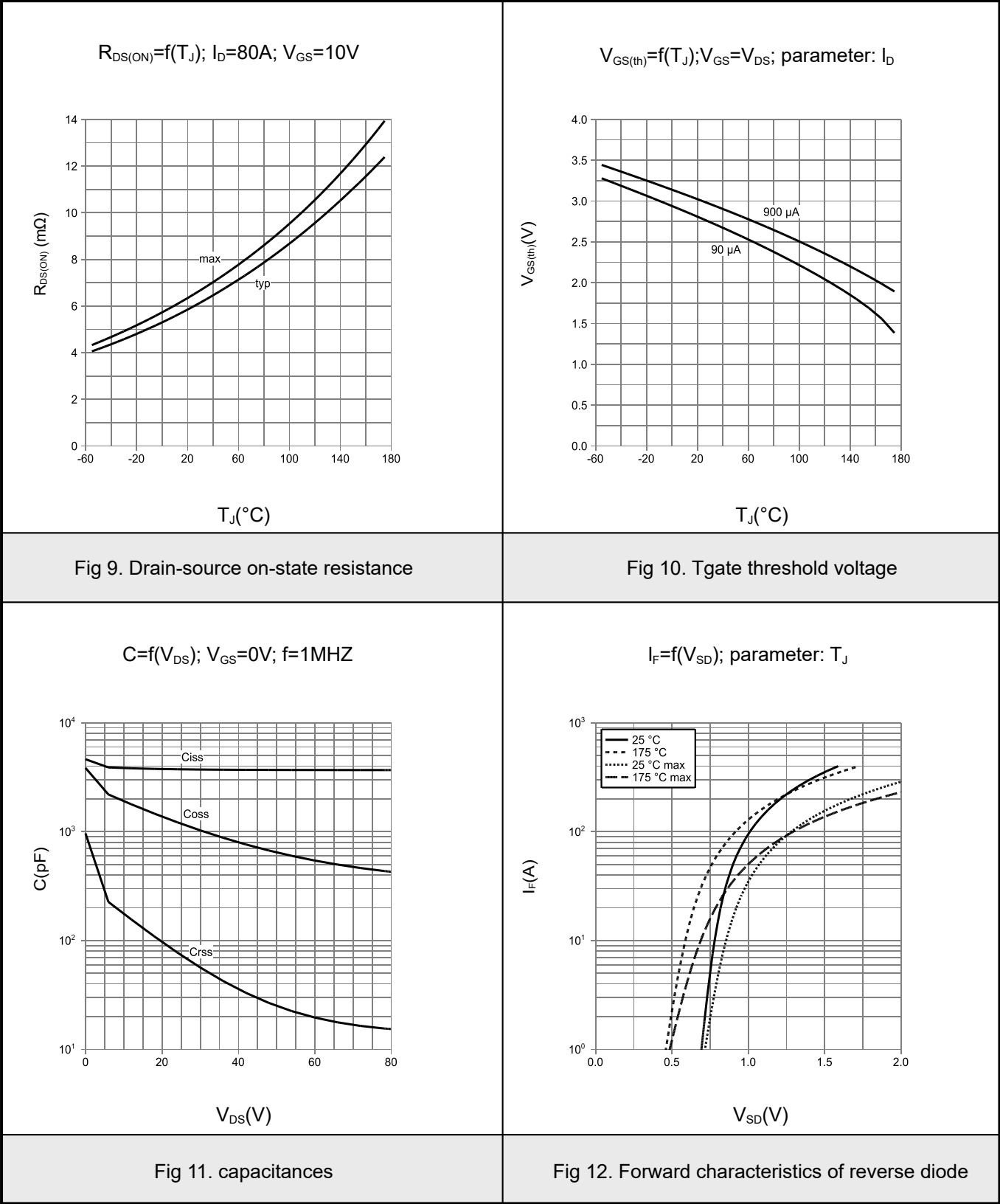


6.2Typical characteristic



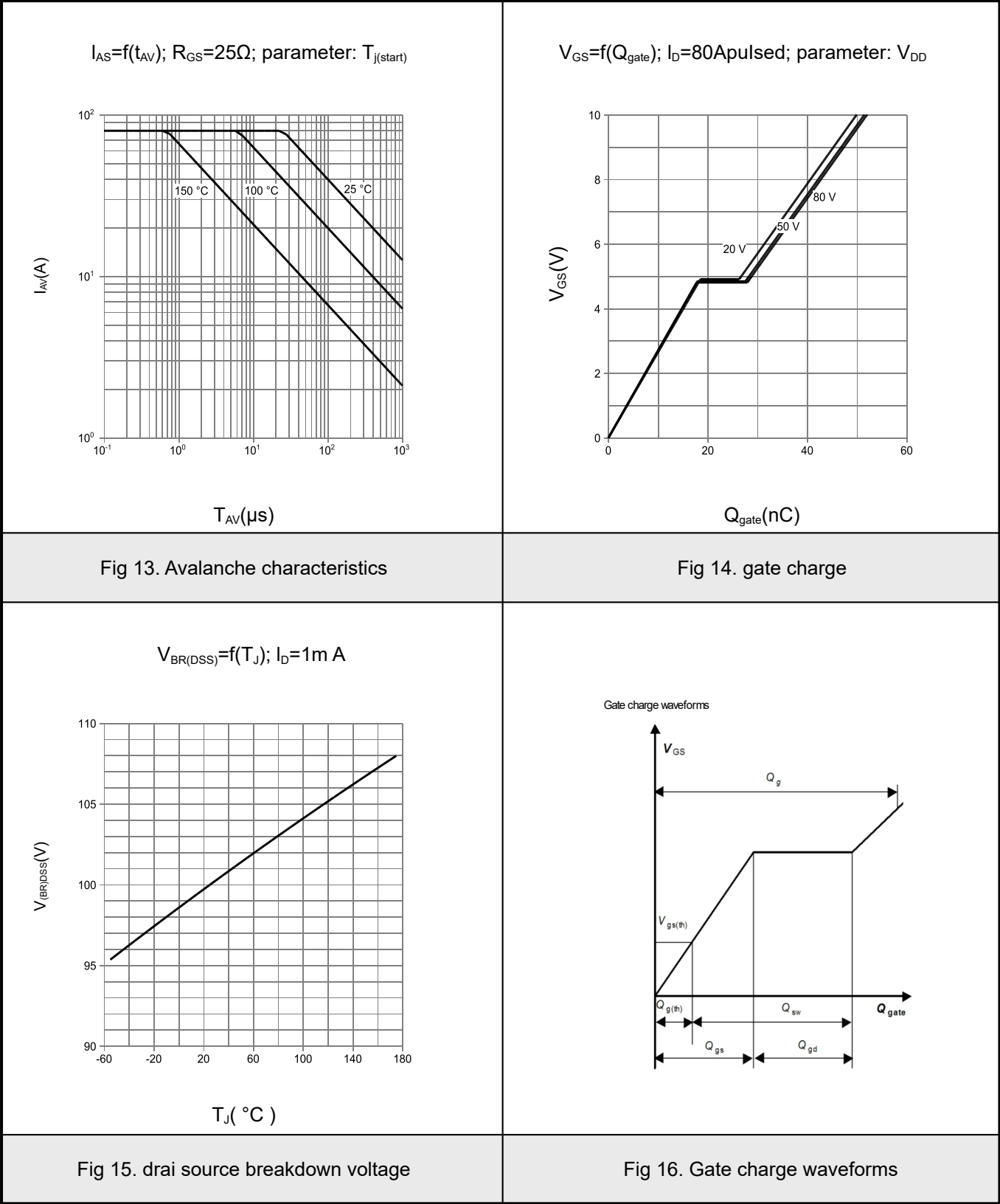


6.3Typical characteristic



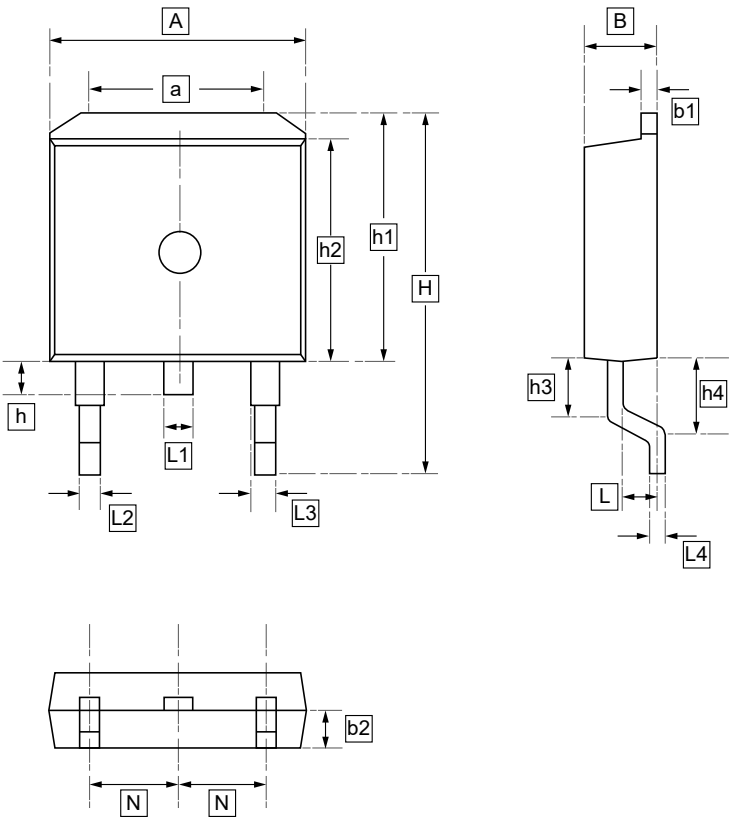


6.4Typical characteristic





7.TO-263 Package Outline Dimensions



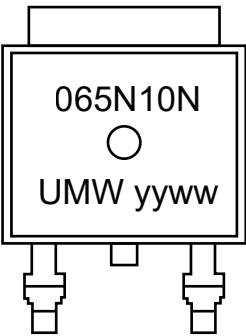
DIMENSIONS (mm are the original dimensions)

Symbol	A	a	B	b1	b2	H	h	h1	h2	h3	h4	L	L1	L2	L3
Min	9.6	7.2	4.3	1.25	2.2	15.2	1.34	10.3	9.1	1.34	2.5	2.2	1.2	0.7	1.2
Max	10.0	7.6	4.7	1.35	2.6	15.8	1.74	10.7	9.3	1.74	2.9	2.6	1.4	0.9	1.4

Symbol	L4	N
Min	0.4	2.4
Max	0.6	2.5



8.Ordering information



yy: Year Code
ww: Week Code

Order Code	Package	Base QTY	Delivery Mode
UMW IPB065N10N3G	TO-263	800	Tape and reel



9.Disclaimer

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