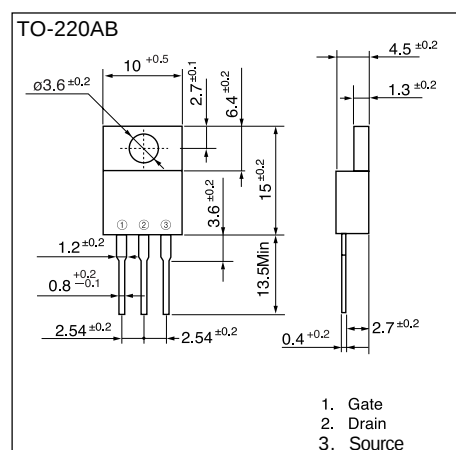


N-CHANNEL SILICON POWER MOS-FET**■ Features**

High speed switching
 Low on-resistance
 No secondary breakdown
 Low driving power
 Avalanche-proof

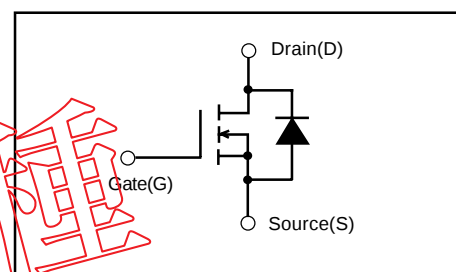
■ Applications

Switching regulators
 UPS (Uninterruptible Power Supply)
 DC-DC converters

**■ Maximum ratings and characteristic Absolute maximum ratings**

● (Tc=25°C unless otherwise specified)

Item	Symbol	Rating	Unit
Drain-source voltage	V _{DS}	60	V
Continuous drain current	I _D	± 50	A
Pulsed drain current	I _D (puls)	±200	A
Gate-source voltage	V _{GS}	±30	V
Maximum Avalanche Energy	E _{AV} *1	867	mJ
Max. power dissipation	P _D	80	W
Operating and storage temperature range	T _{ch} T _{stg}	+150 -55 to +150	°C

*1 L=0.463mH, V_{CC}=24V**■ Equivalent circuit schematic****● Electrical characteristics (Tc=25°C unless otherwise specified)**

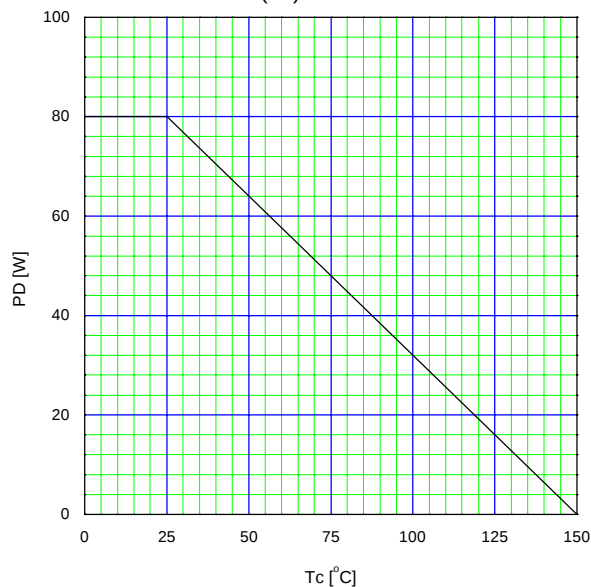
Item	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Drain-source breakdown voltage	V _{DS(BR)}	I _D =1mA V _{GS} =0V	60			V
Gate threshold voltage	V _{GS(th)}	I _D =1mA V _{DS} =V _{GS}	2.5	3.0	3.5	V
Zero gate voltage drain current	I _{DSS}	V _{DS} =60V V _{GS} =0V		10	500	μA
				0.2	1.0	mA
Gate-source leakage current	I _{GSS}	V _{GS} =±30V V _{DS} =0V		10	100	nA
Drain-source on-state resistance	R _{DS(on)}	I _D =40A V _{GS} =10V		9.5	12	mΩ
Forward transconductance	g _{fs}	I _D =40A V _{DS} =25V	20	40		S
Input capacitance	C _{iss}	V _{DS} =25V		3100	4650	pF
Output capacitance	C _{oss}	V _{GS} =0V		1300	1950	
Reverse transfer capacitance	C _{rss}	f=1MHz		350	530	
Turn-on time t _{on}	td(on)	V _{CC} =30V I _D =80A V _{GS} =10V		20	30	ns
	tr			85	120	
Turn-off time t _{off}	td(off)	R _{GS} =10 Ω		88	130	
	tr			65	120	
Avalanche capability	I _{AV}	L=100μH T _{ch} =25°C	50			A
Diode forward on-voltage	V _{SD}	I _F =50A V _{GS} =0V T _{ch} =25°C		1.0	1.5	V
Reverse recovery time	t _{rr}	I _F =50A V _{GS} =0V		70		ns
Reverse recovery charge	Q _{rr}	-di/dt=100A/μs T _{ch} =25°C		0.13		μC

● Thermal characteristics

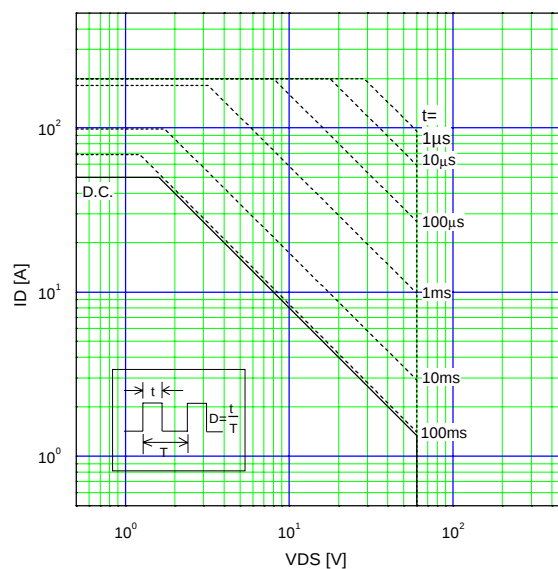
Item	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Thermal resistance	R _{th(ch-c)}	channel to case			1.56	°C/W
	R _{th(ch-a)}	channel to ambient			75.0	°C/W

Characteristics

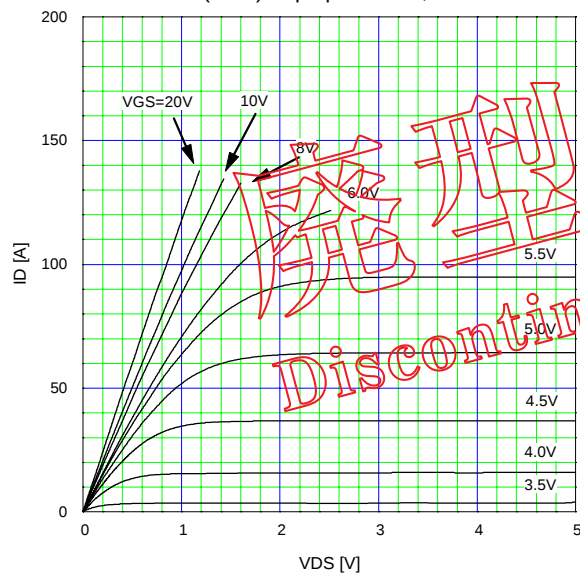
Power Dissipation
 $PD=f(T_c)$



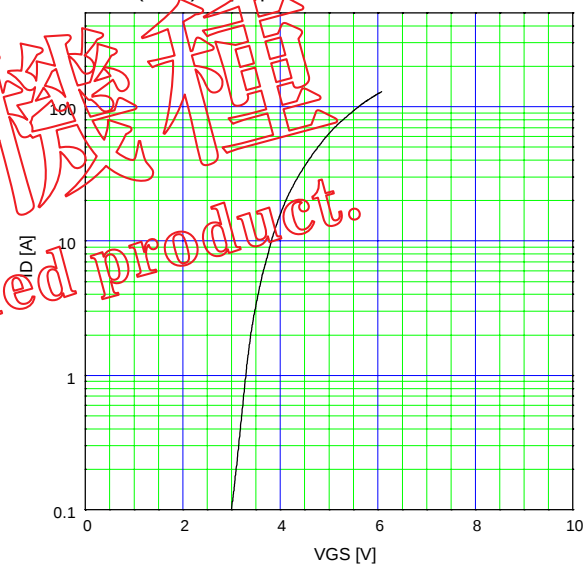
Safe operating area
 $ID=f(V_{DS}):D=0.01, T_c=25^\circ\text{C}$



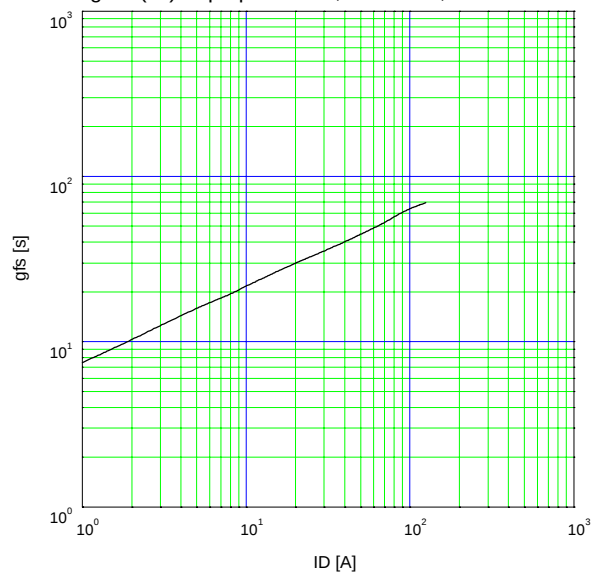
Typical output characteristics
 $ID=f(V_{DS}):80\mu\text{s}$ pulse test, $T_c=25^\circ\text{C}$



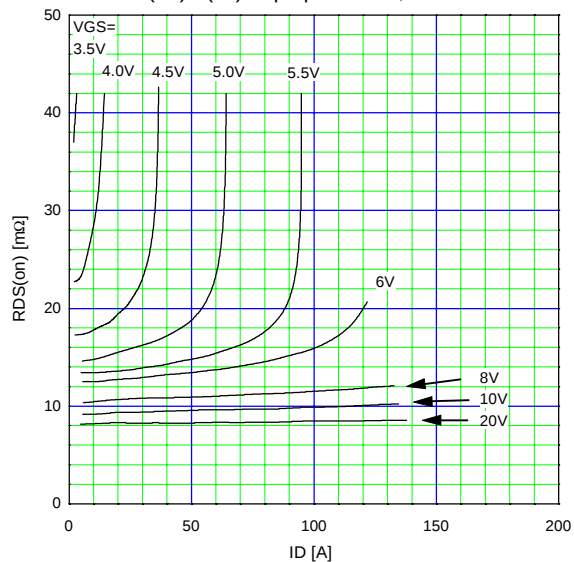
Typical transfer characteristics
 $ID=f(V_{GS}):80\mu\text{s}$ pulse test, $V_{DS}=25\text{V}$, $T_{ch}=25^\circ\text{C}$

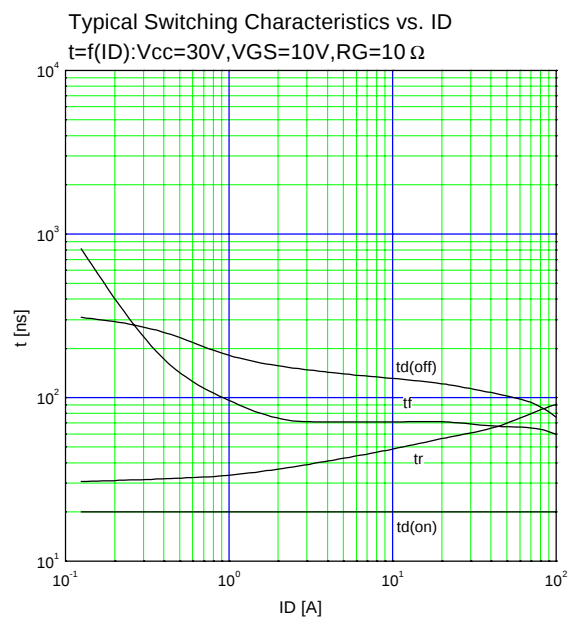
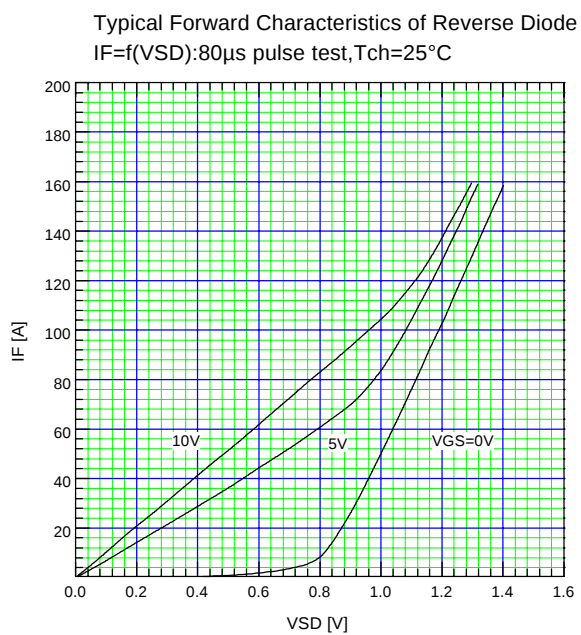
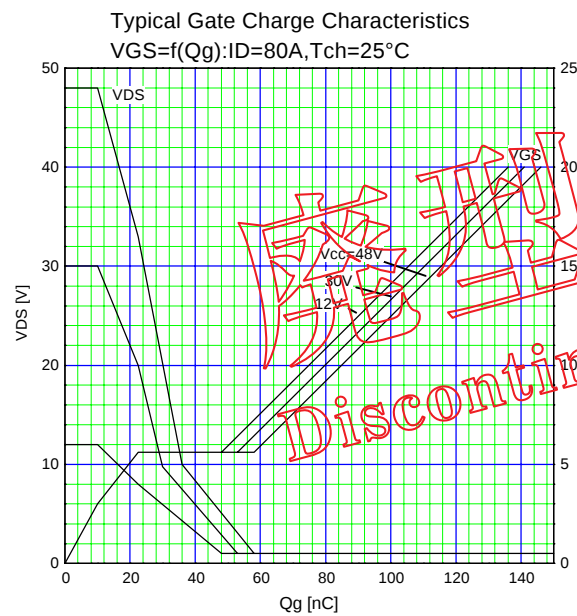
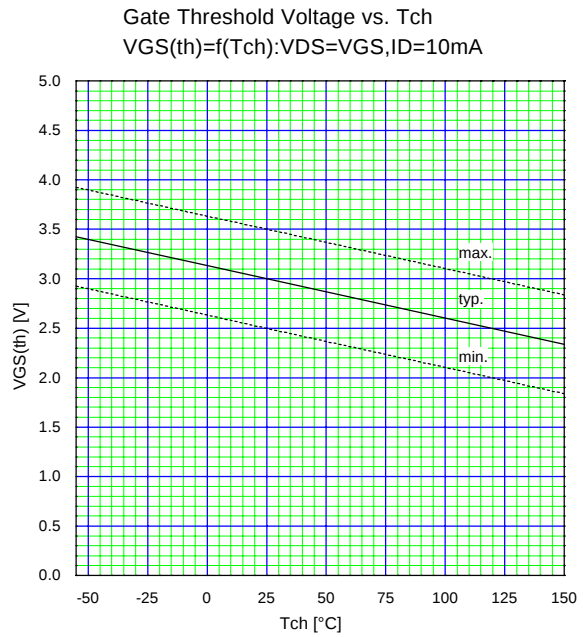
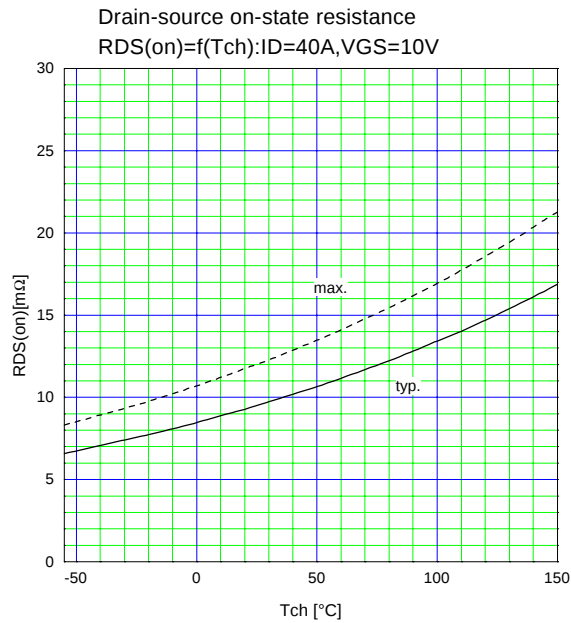


Typical forward transconductance
 $g_{fs}=f(ID):80\mu\text{s}$ pulse test, $V_{DS}=25\text{V}$, $T_{ch}=25^\circ\text{C}$

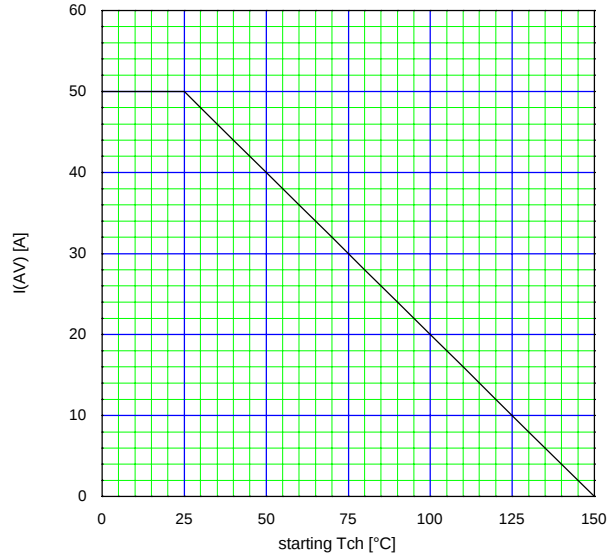


Typical Drain-Source on-State Resistance
 $R_{DS(on)}=f(ID):80\mu\text{s}$ pulse test, $T_{ch}=25^\circ\text{C}$

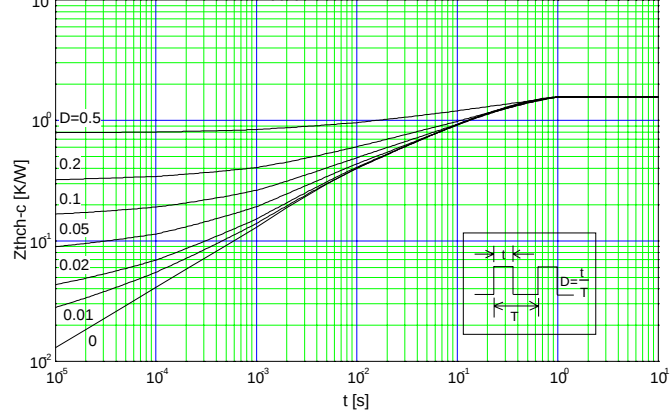




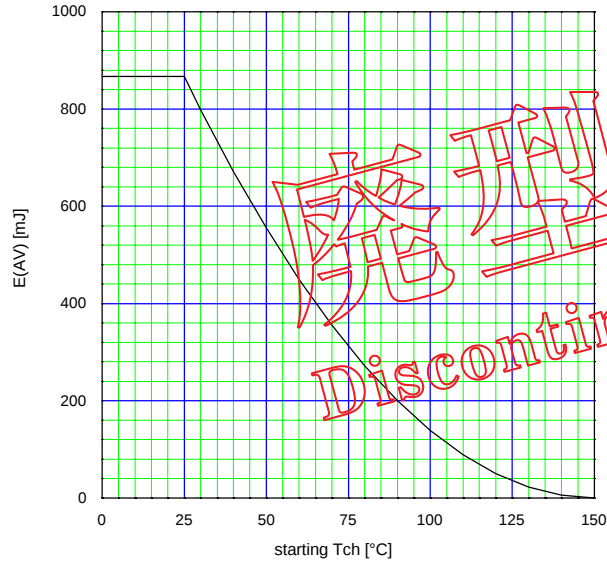
Maximum Avalanche Current vs. starting Tch
 $I(AV)=f(\text{starting Tch})$



Transient thermal impedance
 $Zthch=f(t)$ parameter: $D=t/T$



Maximum Avalanche Energy vs. starting Tch
 $E(AV)=f(\text{starting Tch}): Vcc=24V, I(AV) \leq 50A$



廢型機種
Discontinued product.