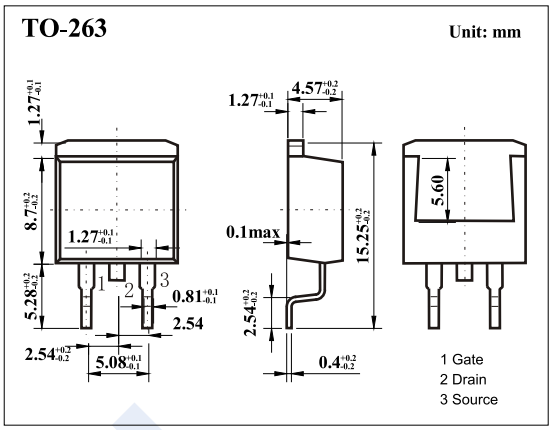
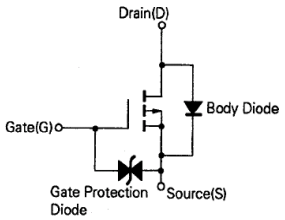
P-Channel MOSFET
2SJ302-ZJ



■ Features

- $V_{DS\ (V)}$ =-60V
- I_D =-16 A
- $R_{DS(ON)}$ < 100mΩ (V_{GS} =-10V)
- $R_{DS(ON)}$ < 240mΩ (V_{GS} =-4V)



■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-60	V
Gate-Source Voltage	V_{GS}	-20,+10	
Continuous Drain Current	I_D	-16	A
Pulsed Drain Current (Note.1)	I_{DM}	-64	
Power Dissipation Tc = 25℃	P_D	75	W
Junction Temperature	T_J	150	℃
Junction Storage Temperature Range	T_{stg}	-55 to 150	

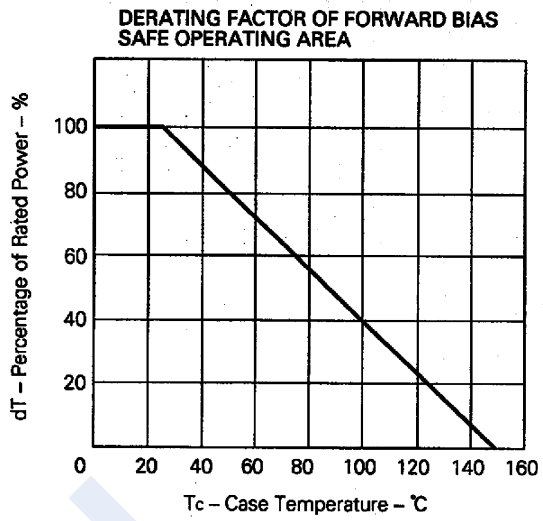
Note.1: PW ⩽ 10us,Duty Cycle ⩽ 1%

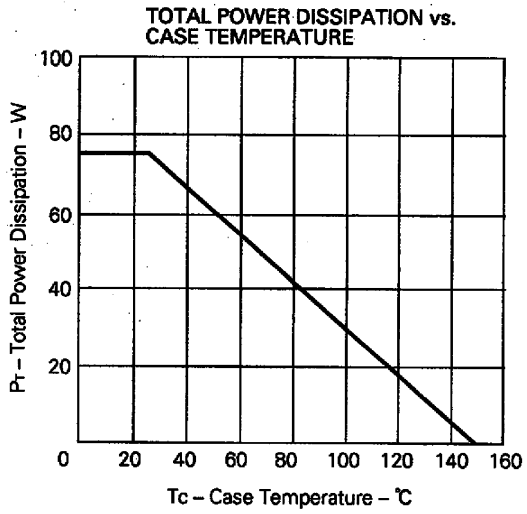
P-Channel MOSFET
2SJ302-ZJ

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=-250μA, V_{GS}=0V	-60			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-60V, V_{GS}=0V			-10	uA
Gate-Body leakage current	I_{GSS}	V_{DS}=0V, V_{GS}=±16V			±10	uA
Gate Cut off Voltage	$V_{GS(off)}$	V_{DS}=-10V,I_D=-1mA	-1		-2	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=-10V, I_D=-8A			100	mΩ
		V_{GS}=-4V, I_D=-6A			240	
Forward Transconductance	g_{FS}	V_{DS}=-10V, I_D=-8A	5			S
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=-10V, f=1MHz		1200		pF
Output Capacitance	C_{oss}			670		
Reverse Transfer Capacitance	C_{rss}			290		
Total Gate Charge	Q_g	V_{GS}=-10V, V_{DS}=-48V, I_D=-16A		42		nC
Gate Source Charge	Q_{gs}			3		
Gate Drain Charge	Q_{gd}			17		
Turn-On DelayTime	$t_{d(on)}$	$V_{GS(on)}$=-10V, V_{DS}=-30V, I_D=-8A, R_L=3.75Ω,R_{GEN}=10Ω		30		ns
Turn-On Rise Time	t_r			170		
Turn-Off DelayTime	$t_{d(off)}$			150		
Turn-Off Fall Time	t_f			130		
Body Diode Reverse Recovery Time	t_{rr}	I_F=-16A, V_{GS}=0, dI/dt=100A/μs		110		
Body Diode Reverse Recovery Charge	Q_{rr}			220		nC
Diode Forward Voltage	V_{SD}	I_F=-16A,V_{GS}=0V		-1		V

■ Typical Characterisitics

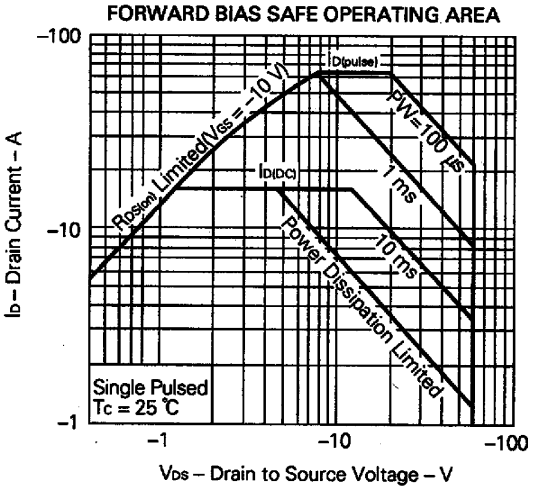




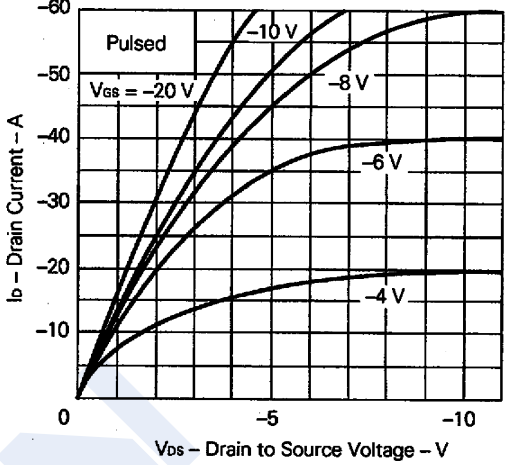
P-Channel MOSFET
2SJ302-ZJ

■ Typical Characterisitics

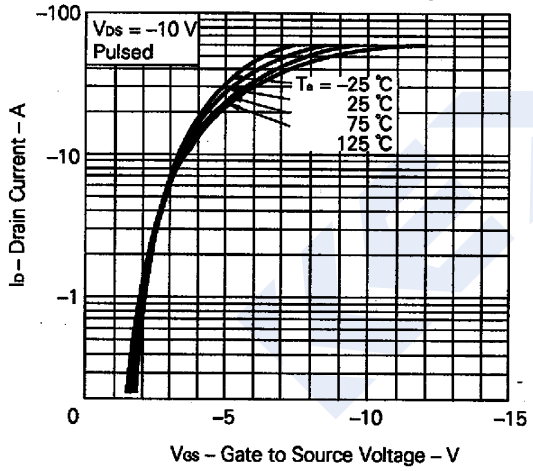
FORWARD BIAS SAFE OPERATING AREA



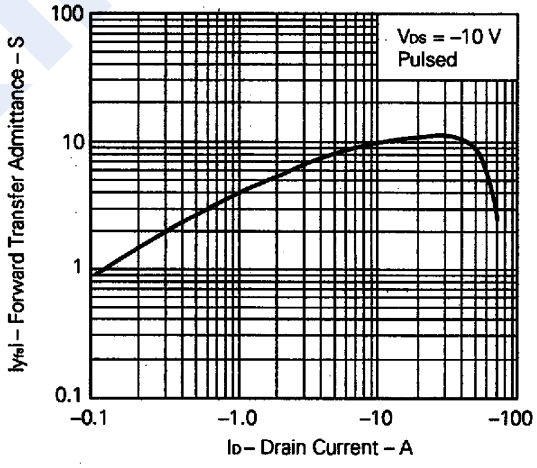
DRAIN CURRENT vs. DRAIN TO SOURCE VOLTAGE



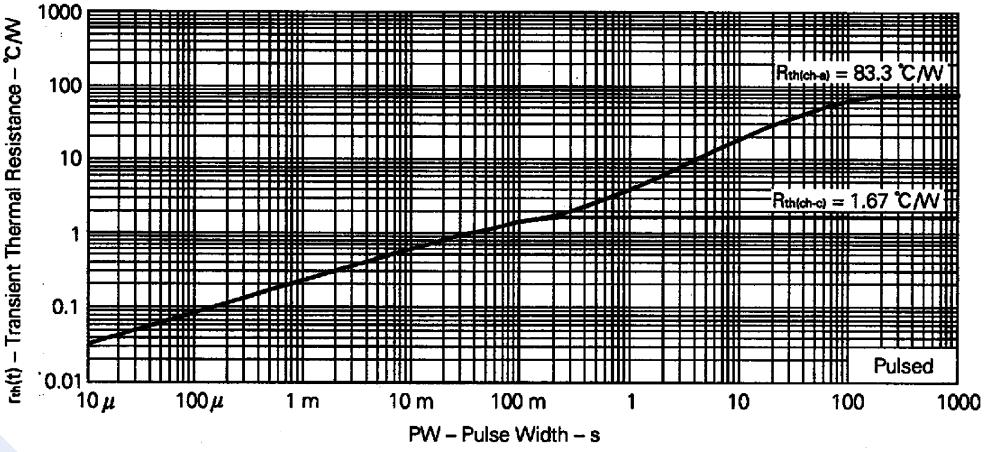
TRANSFER CHARACTERISTICS



FORWARD TRANSFER ADMITTANCE vs. DRAIN CURRENT



TRANSIENT THERMAL RESISTANCE vs. PULSE WIDTH

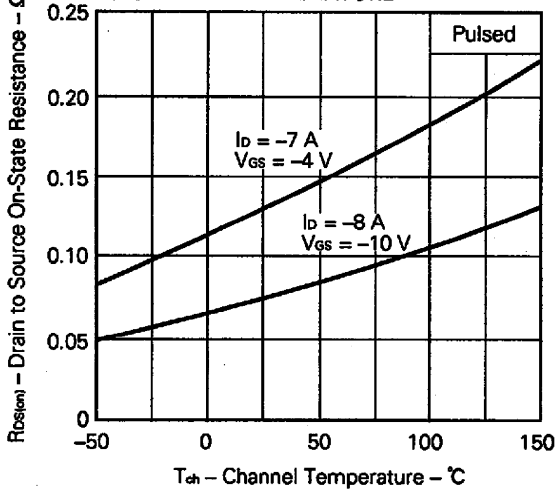


P-Channel MOSFET

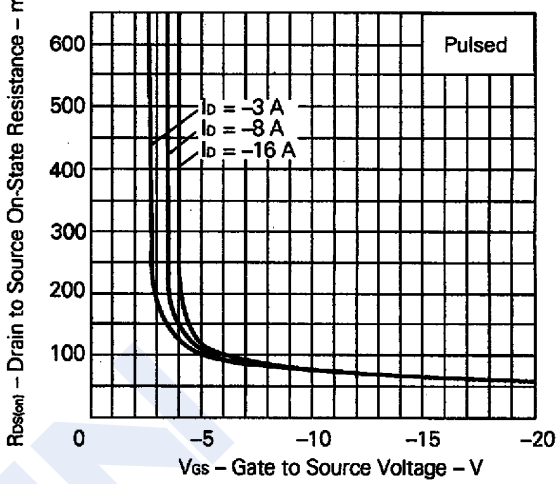
2SJ302-ZJ

■ Typical Characterisitics

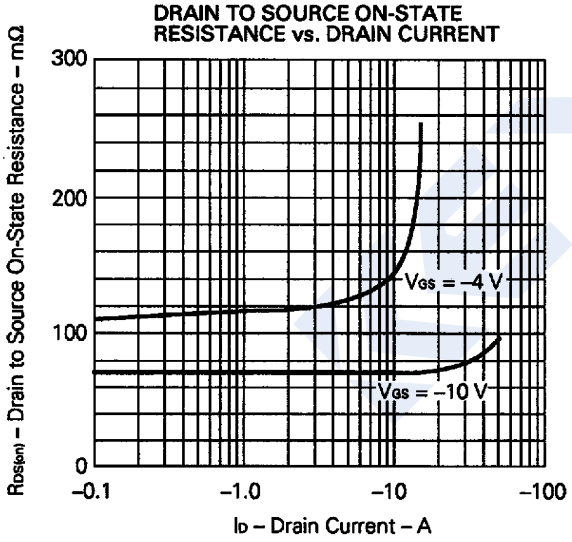
DRAIN TO SOURCE ON-STATE RESISTANCE vs. CHANNEL TEMPERATURE



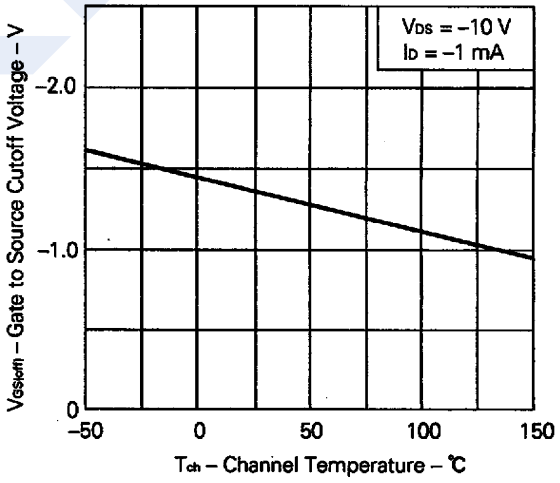
DRAIN TO SOURCE ON-STATE RESISTANCE vs. GATE TO SOURCE VOLTAGE



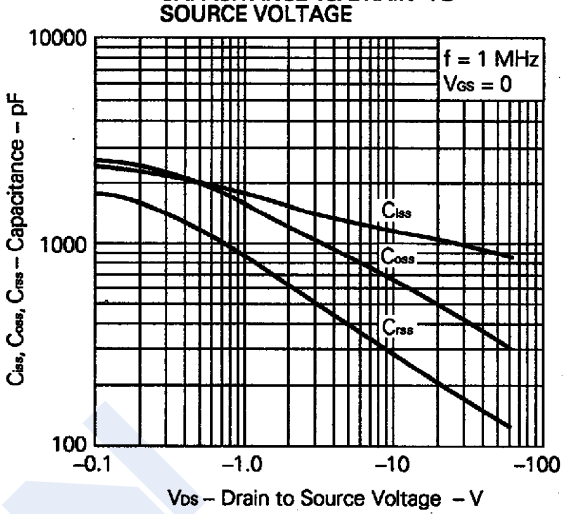
DRAIN TO SOURCE ON-STATE RESISTANCE vs. DRAIN CURRENT



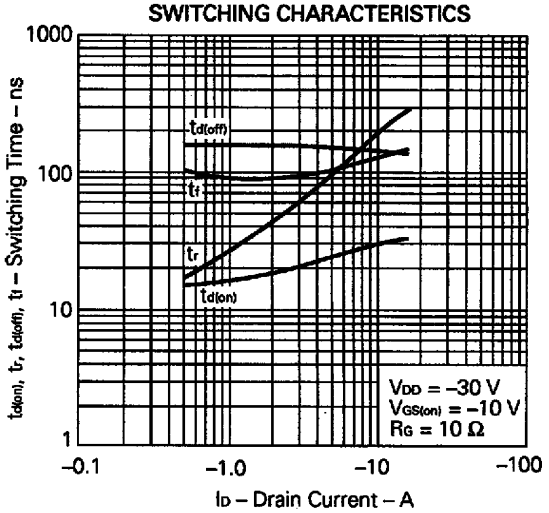
GATE TO SOURCE CUTOFF VOLTAGE vs. CHANNEL TEMPERATURE



CAPACITANCE vs. DRAIN TO SOURCE VOLTAGE



SWITCHING CHARACTERISTICS

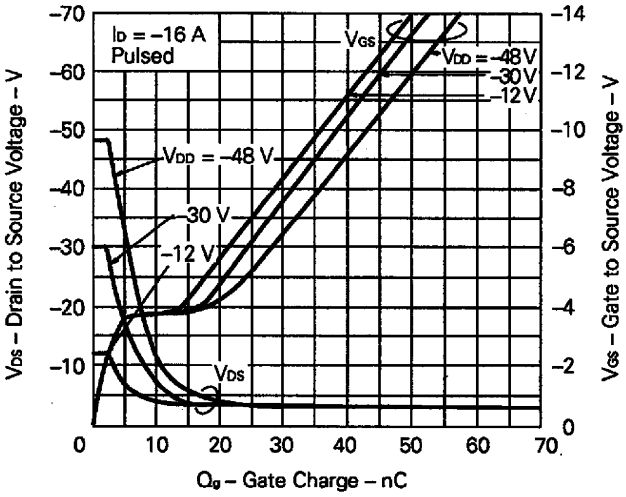


P-Channel MOSFET

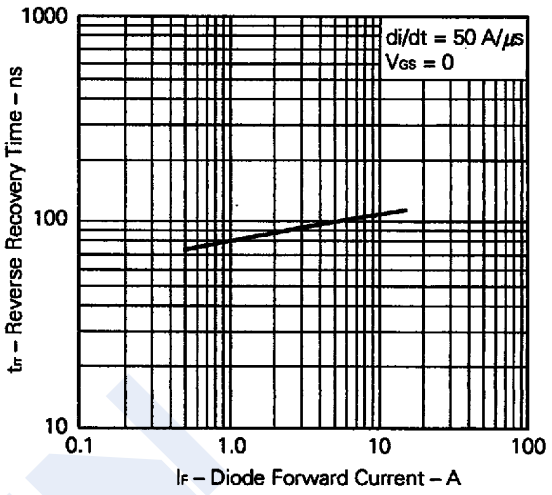
2SJ302-ZJ

■ Typical Characterisitics

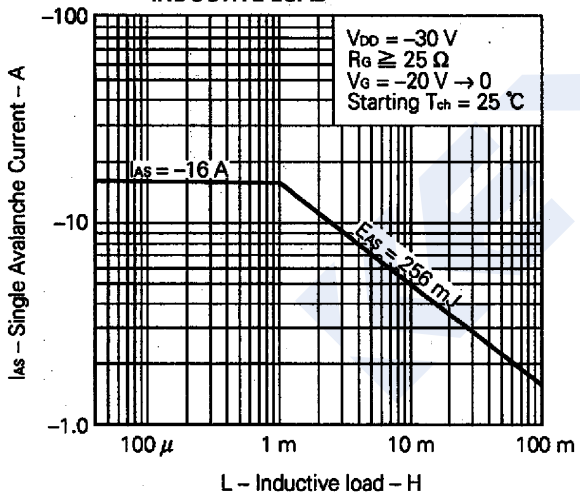
DYNAMIC INPUT CHARACTERISTICS



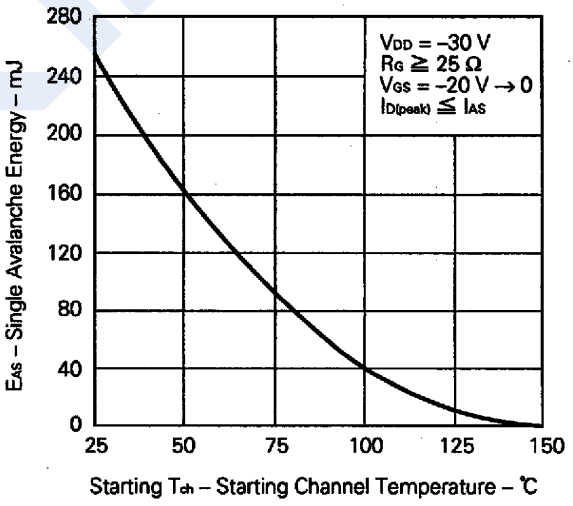
REVERSE RECOVERY TIME vs. DIODE FORWARD CURRENT



SINGLE AVALANCHE CURRENTvs. INDUCTIVE LOAD



SINGLE AVALANCHE ENERGY vs. STARTING CHANNEL TEMPERATURE



SOURCE TO DRAIN DIODE FORWARD VOLTAGE

