

2SK358

SILICON N CHANNEL MOS TYPE (π -MOS)

INDUSTRIAL APPLICATIONS

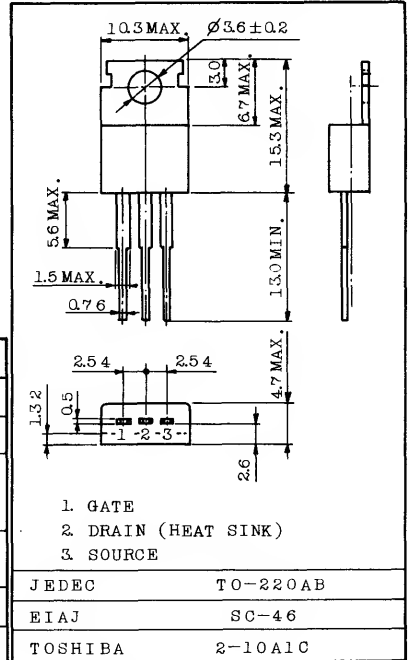
Unit in mm

HIGH SPEED, HIGH VOLTAGE SWITCHING APPLICATIONS.

DC-DC CONVERTER, MOTOR AND SOLENOID DRIVE APPLICATIONS.

FEATURES:

- . Low Drain-Source ON Resistance : $R_{DS(ON)}=0.7\Omega$ (Typ.)
- . High Forward Transfer Admittance : $|Y_{fs}|=2.3S$ (Typ.)
- . High Drain Current : $I_{DP}=8A$ (Max.)
- . Low Leakage Current: $I_{GSS}=\pm 100nA$ (Max.) @ $V_{GS}=\pm 20V$
 $I_{DSS}=1mA$ (Max.) @ $V_{DS}=250V$
- . Enhancement-Mode : $V_{th}=1.5\sim 3.5V$ @ $I_D=1mA$



MAXIMUM RATINGS ($T_a=25^\circ C$)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Drain-Source Voltage		V_{DSX}	250	V
Gate-Source Voltage		V_{GSS}	± 20	V
Drain Current	DC	I_D	5	A
	Pulse	I_{DP}	8	
Drain Power Dissipation ($T_c=25^\circ C$)		P_D	40	W
Channel Temperature		T_{ch}	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55 ~ 150	$^\circ C$

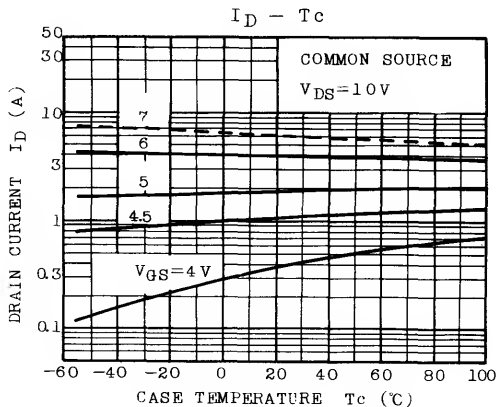
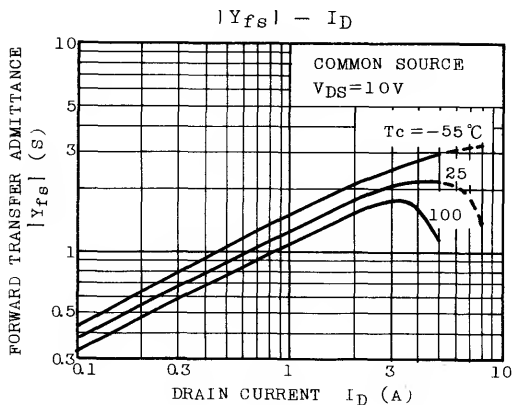
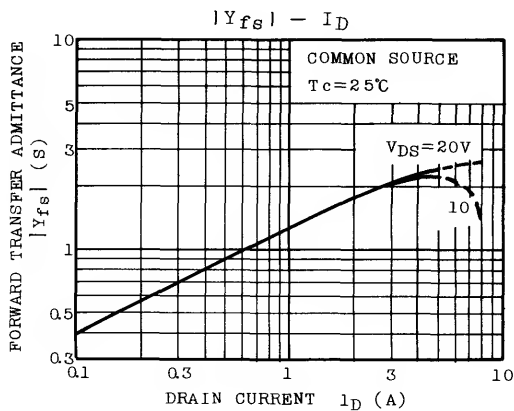
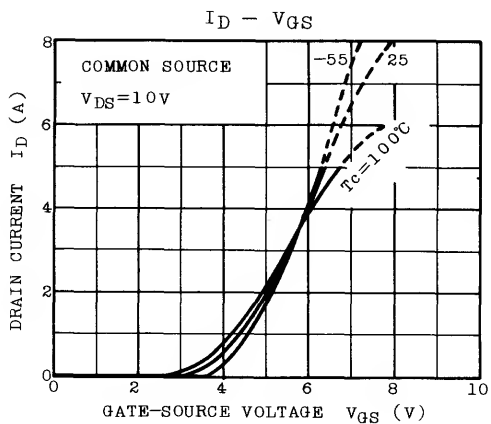
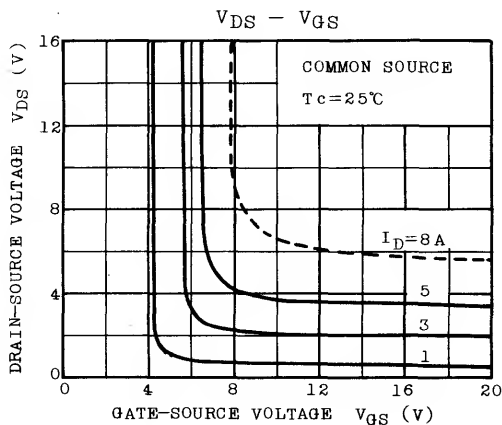
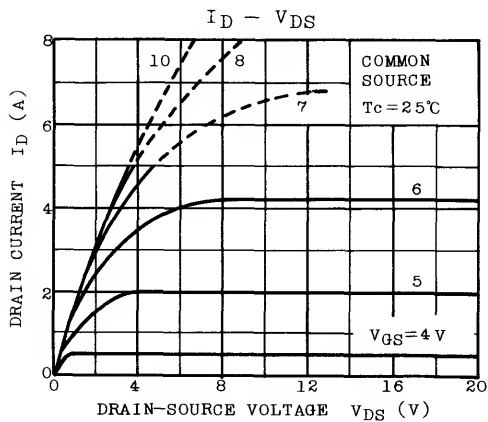
Weight : 1.9g

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ C$)

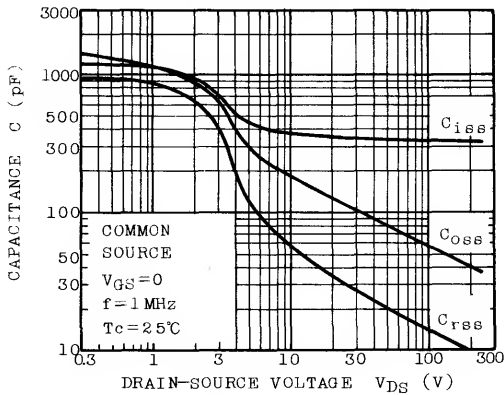
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0$	-	-	± 100	nA
Drain Cut-off Current		I_{DSS}	$V_{DS}=250V, V_{GS}=0$	-	-	1.0	mA
Drain-Source Breakdown Voltage		$V_{(BR)DSS}$	$I_D=10mA, V_{GS}=0$	250	-	-	V
Gate Threshold Voltage		V_{th}	$V_{DS}=10V, I_D=1mA$	1.5	-	3.5	V
Forward Transfer Admittance		$ Y_{fs} $	$V_{DS}=10V, I_D=3A$	1.0	2.3	-	S
Drain-Source ON Resistance		$R_{DS(ON)}$	$I_D=3A, V_{GS}=10V$	-	0.7	1.0	Ω
Drain-Source ON Voltage		$V_{DS(ON)}$	$I_D=8A, V_{GS}=10V$	-	6.5	12	V
Input Capacitance		C_{iss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	380	500	pF
Reverse Transfer Capacitance		C_{rss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	60	120	pF
Output Capacitance		C_{oss}	$V_{DS}=10V, V_{GS}=0, f=1MHz$	-	185	300	pF
Switching Time	Rise Time	t_r		-	20	40	ns
	Turn-on Time	t_{on}		-	30	60	
	Fall Time	t_f		-	30	60	
	Turn-off Time	t_{off}		-	80	160	

THIS TRANSISTOR IS THE ELECTROSTATIC SENSITIVE DEVICE. PLEASE HANDLE WITH CAUTION.

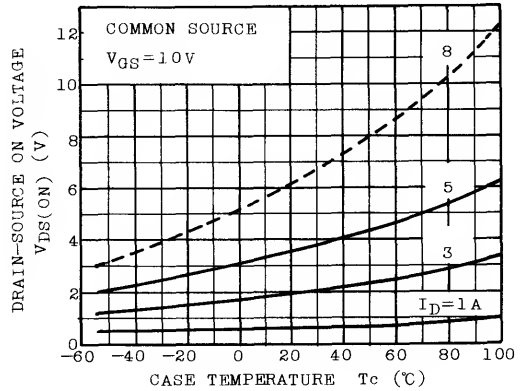
TOSHIBA CORPORATION



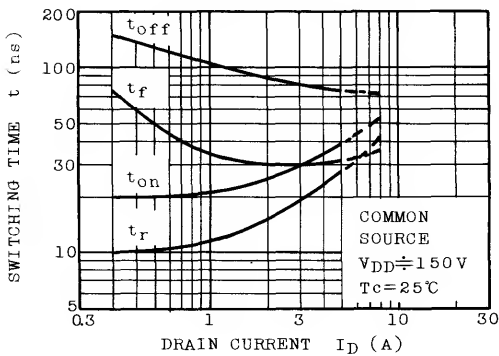
CAPACITANCE - V_{DS}



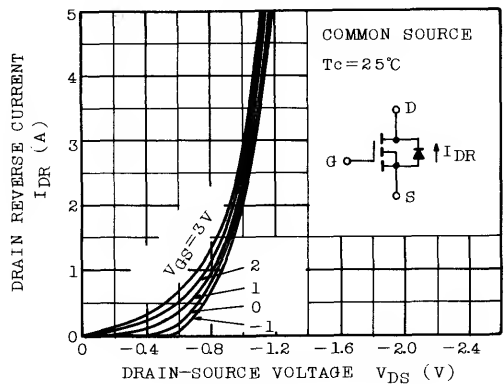
$V_{DS(ON)} - T_c$



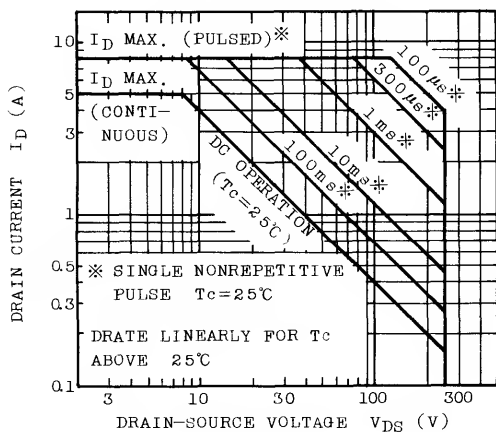
SWITCHING TIME - I_D



$I_{DR} - V_{DS}$



SAFE OPERATING AREA



$P_D - T_c$

