FIELD EFFECT TRANSISTOR

SILICON N CHANNEL MOS TYPE (L^2-π-MOSIII)

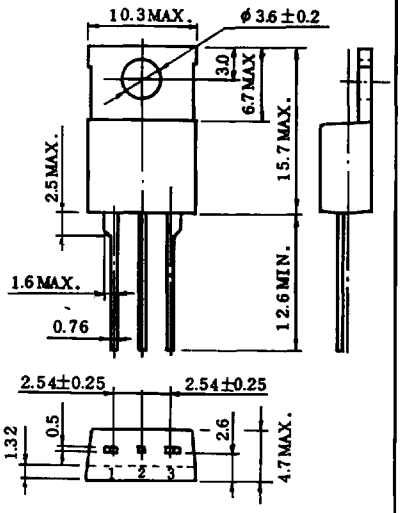
2SK1347

HIGH SPEED, HIGH CURRENT SWITCHING APPLICATIONS.

RELAY DRIVE, MOTOR DRIVE AND DC-DC CONVERTER APPLICATIONS.

INDUSTRIAL APPLICATIONS

Unit in mm



1. GATE
2. DRAIN(HEAT SINK)
3. SOURCE

JEDEC	TO-220AB
EIAJ	SC-46
TOSHIBA	2-10P1B

Weight : 2.0g

FEATURES:

- 4-Volt Gate Drive
- Low Drain-Source ON Resistance : $R_{DS(ON)}$=0.068Ω (Typ.)
- High Forward Transfer Admittance : $|Y_{fs}|$ = 11S (Typ.)
- Low Leakage Current : I_{DSS}= 100μA (Max.) @ V_{DS}=100V
- Enhancement-Mode : V_{th}=0.8~2.0V @ V_{DS}=10V, I_D =1mA

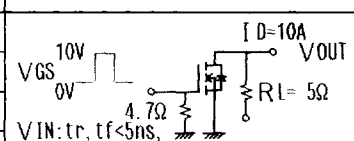
MAXIMUM RATINGS (Ta =25 ℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Drain-Source Voltage		V_{DSS}	100	V
Drain-Gate Voltage (R_{GS}=20kΩ)		V_{DGR}	100	V
Gate-Source Voltage		V_{GSS}	±20	V
Drain Current	DC	I_D	20	A
	Pulse	I_{DP}	80	A
Drain Power Dissipation (Tc=25℃)		P_D	75	W
Channel Temperature		Tch	150	℃
Storage Temperature Range		Tstg	-55~150	℃

THERMAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	MAX.	UNIT
Thermal Impedance, Channel to Case	$R_{th(ch-c)}$	1.67	℃/W
Thermal Impedance, Channel To Ambient	$R_{th(ch-a)}$	83.3	℃/W

ELECTRICAL CHARACTERISTICS (Ta=25 ℃)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		IGSS	VGS= ±20V, VDS=0V	—	—	±100	nA
Drain Cut-off Currnet		IDSS	VDS=100V, VGS=0V	—	—	100	μA
Drain-Source Breakdown Voltage		V(BR)DSS	ID=10mA, VGS=0V	100	—	—	V
Gate Threshold Voltage		Vth	VDS=10V, ID=1mA	0.8	—	2.0	V
Drain-Source ON Resistance		RDS(ON)	VGS= 4V, ID=5A	—	0.10	0.15	Ω
			VGS=10V, ID=10A	—	0.068	0.085	
Forward Transfer Admittance		|Yfs|	VDS=10V, ID=10A	7	11	—	S
Input Capacitance		Ciss	VDS=10V, VGS=0V, f=1MHz	—	1050	1600	pF
Reverse Transfer Capacitance		Crss		—	160	300	
Output Capacitance		Coss		—	620	900	
Switching Time	Rise Time	tr		—	11	25	ns
	Turn-on Time	ton		—	26	50	
	Fall Time	tf		—	14	40	
	Turn-off Time	toff		—	78	160	
Total Gate Charge (Gate-Source Plus Gate-Drain)		Qg	VDD≒80V , VGS=10V, ID=20A	—	36	80	nC
Gate-Source Charge		Qgs		—	23	—	
Gate-Drain(" Miller")Charge		Qgd		—	13	—	

SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS(Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Continuous Drain Reverse Current	IDR	———	—	—	20	A
Pulse Drain Reverse Current	IDRP	———	—	—	80	A
Diode Forward Voltage	VDSF	IDR =20A, VGS=0V	—	-1.0	-1.7	V
Reverse Recovery Time	trr	IDR =20A, VGS=0V	—	280	—	ns
Reverse Recovered Charge	Qrr	dIDR/dt = 50A/μs	—	0.7	—	μC