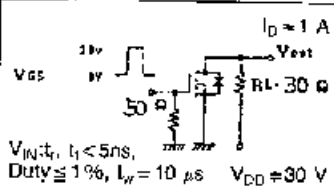


TOSHIBA FIELD EFFECT TRANSISTOR 2SK1717

SILICON N CHANNEL MOS TYPE
(L² - π - MOS IV)

ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I _{GSS}	V _{GS} = ±16 V, V _{DS} = 0 V	—	—	±10	μA
Drain Cut-off Current		I _{DSS}	V _{DS} = 60 V, V _{GS} = 0 V	—	—	100	μA
Drain-Source Breakdown Voltage		V _(DSS)	I _D = 10 mA, V _{GS} = 0 V	60	—	—	V
Gate Threshold Voltage		V _{th}	V _{DS} = 10 V, I _D = 1 mA	0.8	—	2.0	V
Drain-Source ON Resistance		R _{DS(ON)}	V _{GS} = 4 V, I _D = 1 A	—	0.38	0.53	Ω
			V _{GS} = 10 V, I _D = 1 A	—	0.28	0.37	
Forward Transfer Admittance		Y _{fs}	V _{DS} = 10 V, I _D = 1 A	1.0	1.6	—	S
Input Capacitance		C _{iss}	V _{DS} = 10 V, V _{GS} = 0 V, f = 1 MHz	—	125	180	pF
Reverse Transfer Capacitance		C _{rss}		—	30	60	
Output Capacitance		C _{oss}		—	85	130	
Switching Time	Rise Time	t _r	 <p>V_{GS} = 10 V, I_D = 1 A V_{GS} = 0 V, RL = 30 Ω V_{DD} = 30 V</p>	—	30	60	nS
	Turn-on Time	t _{on}		—	60	120	
	Fall Time	t _f		—	40	80	
	Turn-off Time	t _{off}		—	135	270	
Total Gate Charge (Gate-Source Plus Gate-Drain)		Q _g	V _{DD} = 18 V, V _{GS} = 10 V, I _D = 2 A	—	6.5	13	nC
Gate-Source Charge		Q _{gs}		—	4.5	—	
Gate-Drain ("Miller") Charge		Q _{gd}		—	2.0	—	

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Continuous Drain Reverse Current	I _{DR}	—	—	—	2	A
Pulse Drain Reverse Current	I _{DRM}	—	—	—	6	A
Diode Forward Voltage	V _{DSF}	I _{DR} = 2 A, V _{GS} = 0 V	—	—	—1.5	V
Reverse Recovery Time	t _{rr}	I _{DR} = 2 A, V _{GS} = 0 V	—	75	—	nS
Reverse Recovery Charge	Q _{rr}	df _{DR} /dt = 50 A/μs	—	75	—	μC

(*) The information contained here in is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA for any infringements of patents or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any patents or other rights of TOSHIBA or others.

(*) The products described in this document are strategic products subject to COCOM regulations. They should not be exported without authorization from the appropriate governmental authorities (as of October 1989).

GT1AP(1)-A

2SK1717-2*

TOSHIBA CORPORATION