

این دیتاشیت توسط توکل الکترونیک تهیه و ارائه شده است.
جهت مشاهده قیمت، موجودی و ثبت سفارش این قطعه به وبسایت توکل الکترونیک مراجعه فرمایید.



مشاهده قیمت و خرید

برای خرید و مشاهده سایر محصولات کلیک کنید



TOSHIBA

9097250 0023334 858

2SK1643

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL MOS TYPE (π -MOSII-5)

2SK1643

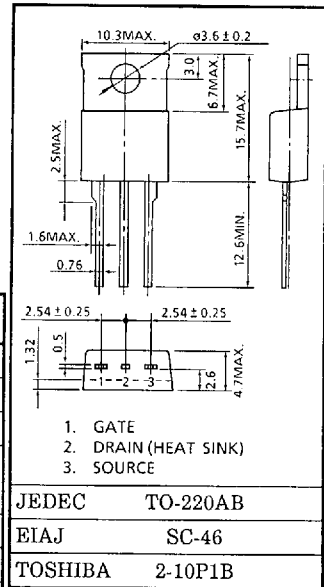
HIGH SPEED, HIGH CURRENT SWITCHING APPLICATIONS.
DC-DC CONVERTER AND MOTOR DRIVE APPLICATIONS.

INDUSTRIAL APPLICATIONS
Unit in mm

- Low Drain-Source ON Resistance : $R_{DS(ON)} = 2.5\Omega$ (Typ.)
- High Forward Transfer Admittance : $|Y_{fs}| = 2.0S$ (Typ.)
- Low Leakage Current : $I_{DSS} = 300\mu A$ (Max.) @ $V_{DS} = 720V$
- Enhancement-Mode : $V_{th} = 1.5 \sim 3.5V$ @ $V_{DS} = 10V$, $I_D = 1mA$

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	V_{DSS}	900	V
Drain-Gate Voltage ($R_{GS} = 20k\Omega$)	V_{DGR}	900	V
Gate-Source Voltage	V_{GSS}	± 30	V
Drain Current	DC I_D	5	A
	Pulse I_{DP}	15	
Drain Power Dissipation ($T_c = 25^\circ C$)	P_D	125	W
Channel Temperature	T_{ch}	150	$^\circ C$
Storage Temperature Range	T_{slg}	$-55 \sim 150$	$^\circ C$



THERMAL CHARACTERISTICS

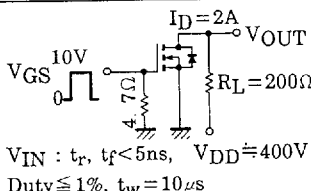
CHARACTERISTIC	SYMBOL	MAX.	UNIT
Thermal Resistance, Channel to Case	$R_{th(ch-c)}$	1.0	$^\circ C/W$
Thermal Resistance, Channel to Ambient	$R_{th(ch-a)}$	83.3	$^\circ C/W$

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

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

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I_{GSS}	$V_{GS} = \pm 25\text{V}, V_{DS} = 0\text{V}$	—	—	± 100	nA
Drain Cut-off Current		I_{DSS}	$V_{DS} = 720\text{V}, V_{GS} = 0\text{V}$	—	—	300	μA
Drain-Source Breakdown Voltage		$V_{(BR)DSS}$	$I_D = 10\text{mA}, V_{GS} = 0\text{V}$	900	—	—	V
Gate Threshold Voltage		V_{th}	$V_{DS} = 10\text{V}, I_D = 1\text{mA}$	1.5	—	3.5	V
Drain-Source ON Resistance		$R_{DS(ON)}$	$V_{GS} = 10\text{V}, I_D = 2\text{A}$	—	2.5	2.8	Ω
Forward Transfer Admittance		$ Y_{fs} $	$V_{DS} = 20\text{V}, I_D = 2\text{A}$	1.0	2.0	—	S
Input Capacitance		C_{iss}	$V_{DS} = 25\text{V}, V_{GS} = 0\text{V}, f = 1\text{MHz}$	—	700	1000	pF
Reverse Transfer Capacitance		C_{rss}		—	55	90	
Output Capacitance		C_{oss}		—	100	150	
Switching Time	Rise Time	t_r	 <p>$V_{GS} = 10\text{V}$ $I_D = 2\text{A}$ $R_L = 200\Omega$ $V_{IN} : t_r, t_f < 5\text{ns}, V_{DD} = 400\text{V}$ Duty $\leq 1\%$, $t_w = 10\mu\text{s}$</p>	—	18	35	ns
	Turn-on Time	t_{on}		—	30	60	
	Fall Time	t_f		—	12	25	
	Turn-off Time	t_{off}		—	70	140	
Total Gate Charge (Gate-Source Plus Gate-Drain)		Q_g	$V_{DD} = 400\text{V}, V_{GS} = 10\text{V}, I_D = 4\text{A}$	—	60	120	nC
Gate-Source Charge		Q_{gs}		—	35	—	
Gate-Drain ("Miller") Charge		Q_{gd}		—	25	—	

SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Continuous Drain Reverse Current	I_{DR}	—	—	—	5	A
Pulse Drain Reverse Current	I_{DRP}	—	—	—	15	A
Diode Forward Voltage	V_{DSF}	$I_{DR} = 4\text{A}, V_{GS} = 0\text{V}$	—	—	-1.9	V
Reverse Recovery Time	t_{rr}	$I_{DR} = 4\text{A}, V_{GS} = 0\text{V}$	—	1000	—	ns
Reverse Recovered Charge	Q_{rr}	$dI_{DR} / dt = 100\text{A} / \mu\text{s}$	—	0.13	—	μC

