Field Effect Transistor

Silicon N Channel MOS Type (π-MOS II)

High Speed, High Current Switching Applications

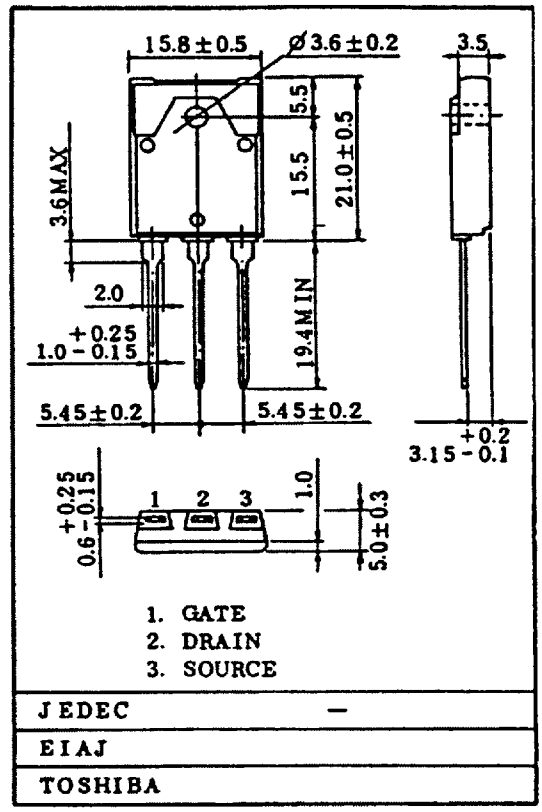
Features

- High Breakdown Voltage
  - $V_{(BR)DSS}$ = 900V
- High Forward Transfer Admittance
  - $|Y_{fs}|$ = 1.7S (Typ.)
- Low Leakage Current
  - I_{GSS} = ±100nA (Max.) (V_{GS} = ±20V)
  - I_{DSS} = -300μA (Max.) (V_{DS} = 900V)
- Enhancement-Mode
  - V_{th} = 1.5 ~ 3.5V (I_D = 1mA)

Absolute Maximum Ratings (Ta = 25°C)

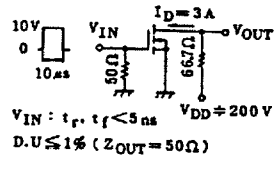
CHARACTERISTIC		SYMBOL	RATING	UNIT
Drain-Source Voltage		V_{DSS}	900	V
Gate-Source Voltage		V_{GSS}	±20	V
Drain Current	DC	I_D	5	A
	Pulse	I_{DP}	10	
Drain Power Dissipation (Tc = 25°C)		P_D	85	W
Channel Temperature		T_{ch}	150	°C
Storage Temperature Range		T_{stg}	-55 ~ 150	°C

Unit in mm



JEDEC	—
EIAJ	
TOSHIBA	

Electrical Characteristics (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I_{GSS}	V_{GS} = ±20V, V_{DS} = 0	–	–	±100	nA
Drain Cut-off Current		I_{DSS}	V_{DS} = 900V, V_{GS} = 0	–	–	300	μA
Drain-Source Breakdown Voltage		$V_{(BR)\ DSS}$	I_D = 10mA, V_{GS} = 0	900	–	–	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_{DS} = 3A	1.0	1.7		S
Drain-Source ON Resistance		$R_{DS\ (ON)}$	I_D = 3A, V_{GS} = 10V		2.1	2.5	Ω
Drain-Source ON Voltage		$V_{DS\ (ON)}$	I_D = 5A, V_{GS} = 10V		11	13	V
Input Capacitance		C_{iss}	V_{DS} = 25V, V_{GS} = 0, f = 1MHz	–	1400	1900	pF
Reverse Transfer Capacitance		C_{rss}		–	110	200	
Output Capacitance		C_{oss}		–	190	300	
Switching Time	Rise Time	t_r		–	110	220	ns
	Turn-on Time	t_{on}		–	130	260	
	Fall Time	t_f		–	90	260	
	Turn-off Time	t_{off}		–	480	900	