

TOSHIBA Field Effect Transistor Silicon N Channel MOS Type (π -MOSV)

2SK3497

High Power Amplifier Application

- High breakdown voltage: $V_{DSS} = 180V$
- Complementary to 2SJ618

Absolute Maximum Ratings ($T_a = 25^\circ C$)

Characteristics		Symbol	Rating	Unit
Drain-source voltage		V_{DSS}	180	V
Gate-source voltage		V_{GSS}	± 12	V
Drain current	DC (Note 1)	I_D	10	A
	Pulse (Note 1)	I_{DP}	30	A
Drain power dissipation ($T_c = 25^\circ C$)		P_D	130	W
Channel temperature		T_{ch}	150	$^\circ C$
Storage temperature range		T_{stg}	-55~150	$^\circ C$

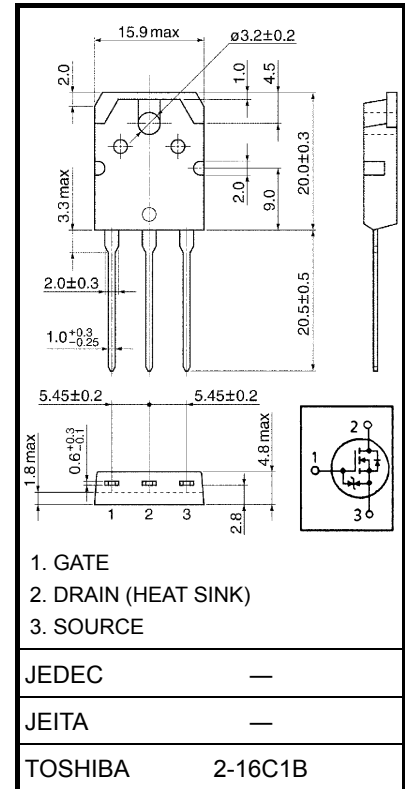
Note 1: Ensure that the channel temperature does not exceed $150^\circ C$.

Note 2: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings. Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

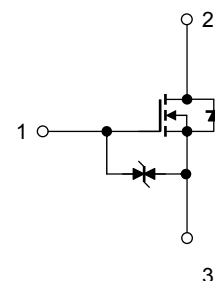
Thermal Characteristics

Characteristics	Symbol	Max	Unit
Thermal resistance, channel to case	$R_{th(ch-c)}$	0.96	$^\circ C / W$
Thermal resistance, channel to ambient	$R_{th(ch-a)}$	50	$^\circ C / W$

Unit: mm



Weight: 4.6 g (typ.)

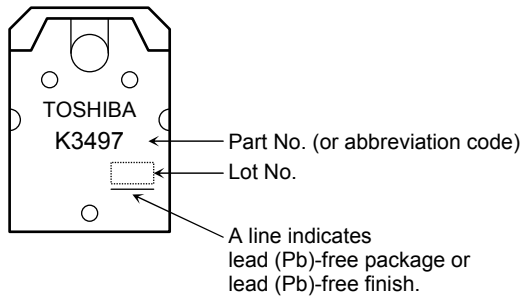


Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Gate leakage current	I_{GSS}	$V_{GS} = \pm 12\text{ V}, V_{DS} = 0\text{ V}$	—	—	10	μA
Drain cut-off current	I_{DSS}	$V_{DS} = 180\text{ V}, V_{GS} = 0\text{ V}$	—	—	100	μA
Drain-source breakdown voltage	$V_{(BR)DSS}$	$I_D = 10\text{ mA}, V_{GS} = 0\text{ V}$	180	—	—	V
Gate threshold voltage	V_{th}	$V_{DS} = 10\text{ V}, I_D = 1\text{ mA}$	1.1	—	2.1	V
Drain-source saturation voltage	$V_{DS(ON)}$	$V_{GS} = 7\text{ V}, I_D = 5\text{ A}$	—	—	0.75	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = 10\text{ V}, I_D = 5\text{ A}$	6.0	12.0	—	S
Input capacitance	C_{iss}	$V_{DS} = 30\text{ V}, V_{GS} = 0\text{ V}, f = 1\text{ MHz}$	—	2400	—	pF
Reverse transfer capacitance	C_{rss}		—	220	—	
Output capacitance	C_{oss}		—	30	—	

This transistor is an electrostatic-sensitive device. Please handle with caution.

Marking



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20070701-EN

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