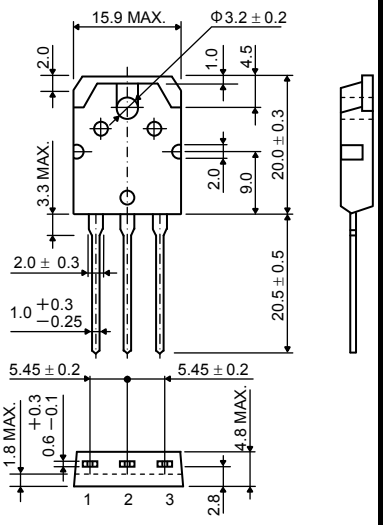
TOSHIBA Field Effect Transistor Silicon N Channel MOS Type (π−MOSV)

2SK3497

High Power Amplifier Application

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

Unit: mm



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

JEDEC	—
JEITA	SC-65
TOSHIBA	2-16C1B

Weight: 4.6 g (typ.)

Maximum Ratings (Ta = 25°C)

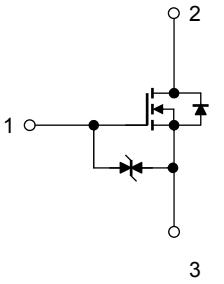
Characteristics		Symbol	Rating	Unit
Drain−source voltage		V_{DSS}	180	V
Gate−source voltage		V_{GSS}	±12	V
Drain current	DC (Note 1)	I_D	10	A
	Pulse (Note 1)	I_{DP}	30	A
Drain power dissipation (Tc = 25°C)		P_D	130	W
Channel temperature		T_{ch}	150	°C
Storage temperature range		T_{stg}	−55 to 150	°C

Note 1: Ensure that the channel temperature does not exceed 150°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	°C / W
Thermal resistance, channel to ambient	$R_{th\ (ch-a)}$	50	°C / W

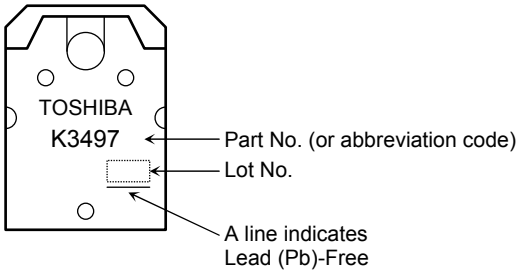


Electrical Characteristics (Ta = 25°C)

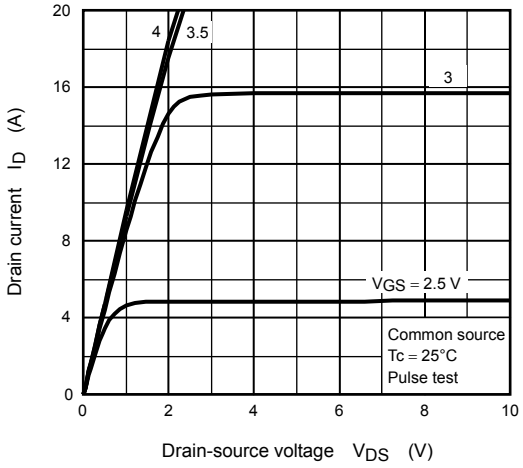
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Drain cut−off current	I_{DSS}	V_{DS} = 180V, V_{GS} = 0 V	—	—	100	μA
Gate leakage current	I_{GSS}	V_{GS} = ±12 V, V_{DS} = 0 V	—	—	10	μA
Drain−source breakdown voltage	$V_{(BR)\ DSS}$	I_D = 10 mA, V_{GS} = 0 V	180	—	—	V
Drain−source saturation voltage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

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

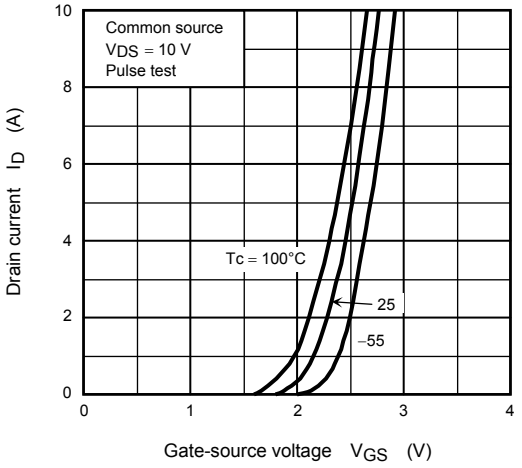
Marking



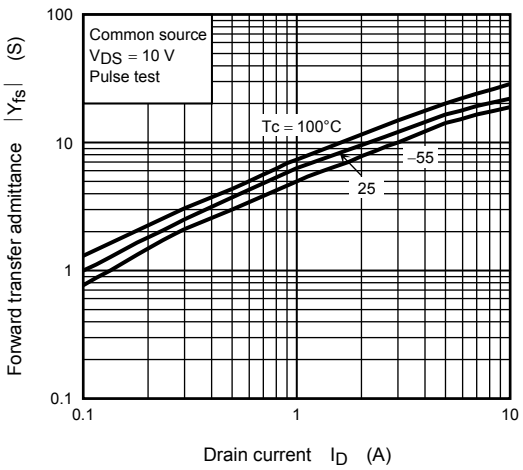
$I_D - V_{DS}$



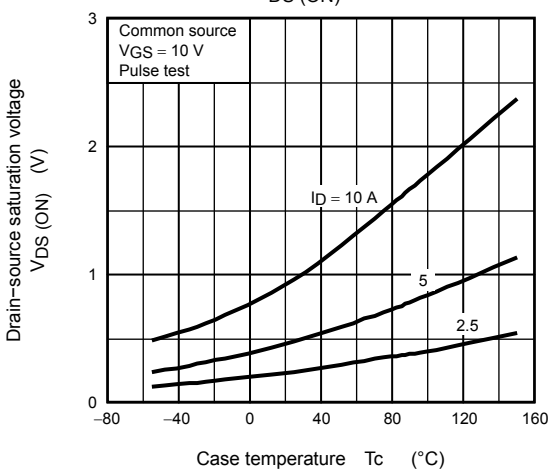
$I_D - V_{GS}$



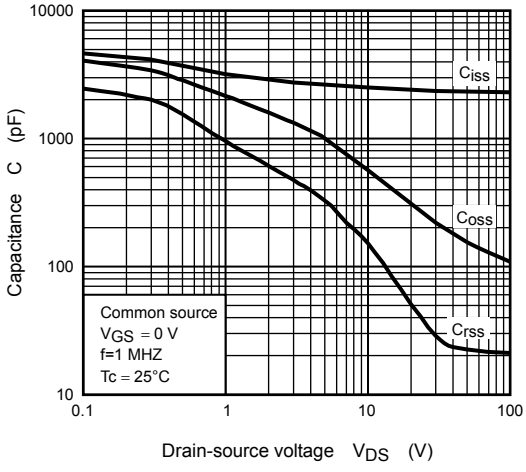
$|Y_{fs}| - I_D$



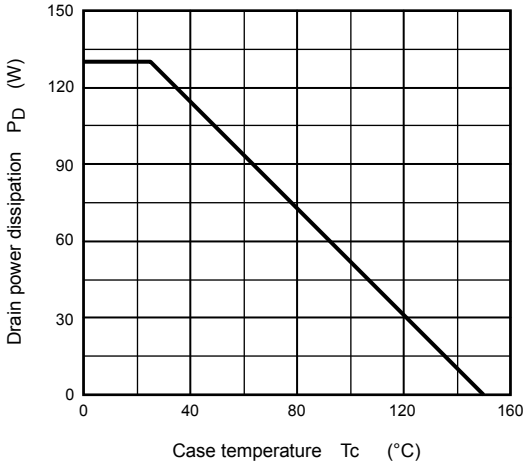
$V_{DS\ (ON)} - Tc$



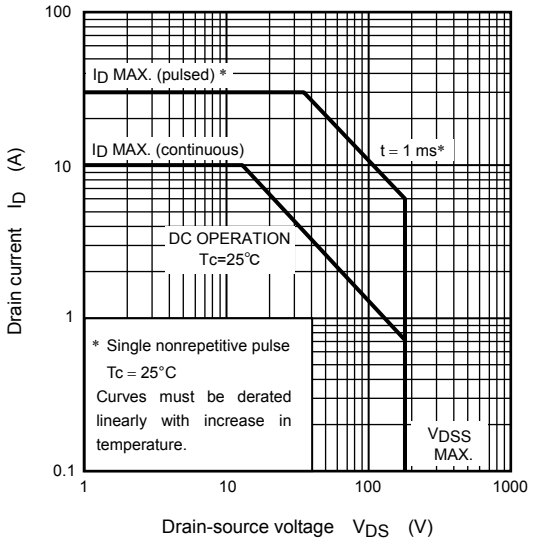
Capacitance – V_{DS}



$P_D - Tc$



Safe operating area



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20070701-EN GENERAL

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