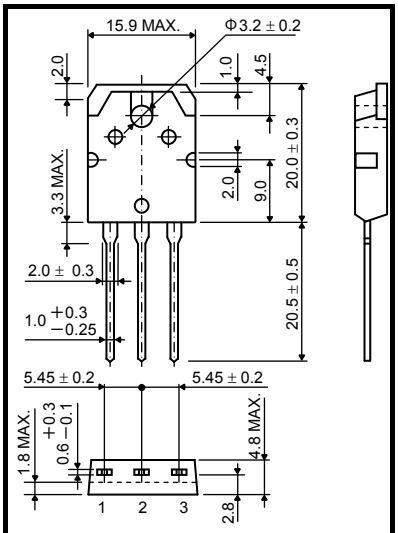
TOSHIBA Field Effect Transistor Silicon P Channel MOS Type(π -MOS Ⅴ)

2SJ618

High-Power Amplifier Applications

- High breakdown voltage: V_{DSS} = −180 V
- Complementary to 2SK3497

Unit: mm



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

JEDEC	―
JEITA	SC-67
TOSHIBA	2-16C1B

Weight: 4.6 g (typ.)

Absolute Maximum Ratings (Ta = 25°C)

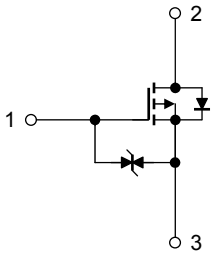
Characteristics		Symbol	Rating	Unit
Drain-source voltage		V_{DSS}	−180	V
Gate-source voltage		V_{GSS}	±20	V
Drain current	DC (Note 1)	I_D	−10	A
	Pulse (Note 1)	I_{DP}	−30	A
Power dissipation (Tc = 25°C)		P_D	130	W
Channel temperature		T_{ch}	150	°C
Storage temperature range		T_{stg}	−55 to 150	°C

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

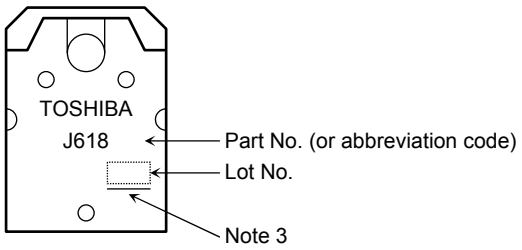


Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Drain cut−off current	I_{DSS}	V_{DS} = −180 V, V_{GS} = 0 V	—	—	−100	μA
Gate leakage current	I_{GSS}	V_{DS} = 0, V_{GS} = ±12 V	—	—	±10	μA
Drain-source breakdown voltage	$V_{(BR)\ DSS}$	I_D = −10 mA, V_{GS} = 0	−180	—	—	V
Drain-source saturation voltage	$V_{DS\ (ON)}$	I_D = −5 A, V_{GS} = −7 V	—	—	−1.85	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, f = 1 MHz	—	2300	—	pF
Output capacitance	C_{oss}		—	330	—	
Reverse transfer capacitance	C_{rss}		—	65	—	

This transistor is the electrostatic-sensitive device. Plese handle with caution.

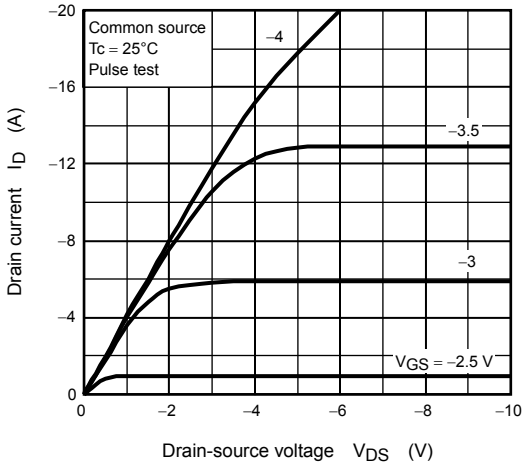
Marking



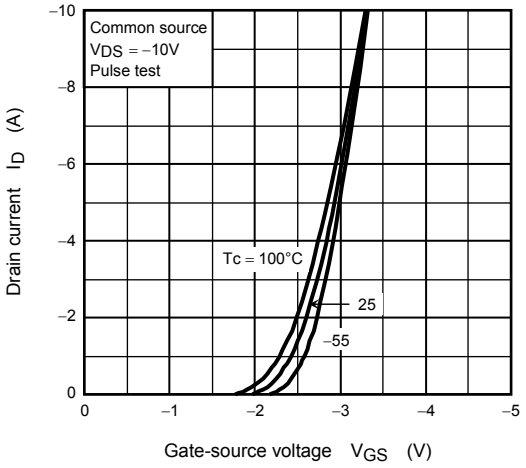
Note 3: A line under a Lot No. identifies the indication of product Labels.
Not underlined: [[Pb]]/INCLUDES > MCV
Underlined: [[G]]/RoHS COMPATIBLE or [[G]]/RoHS [[Pb]]

Please contact your TOSHIBA sales representative for details as to environmental matters such as the RoHS compatibility of Product. The RoHS is the Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

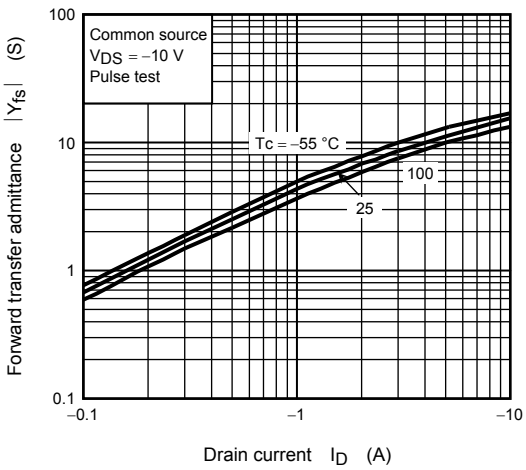
$I_D - V_{DS}$



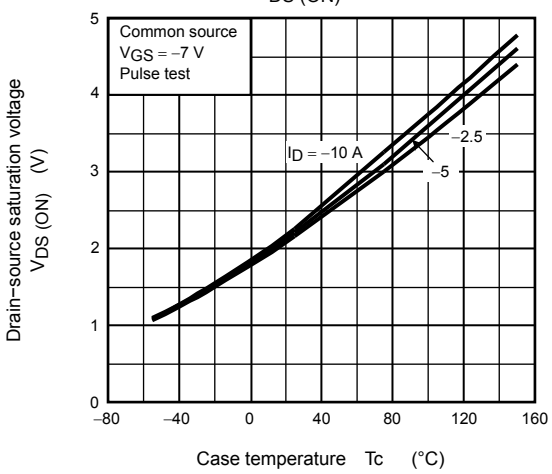
$I_D - V_{GS}$



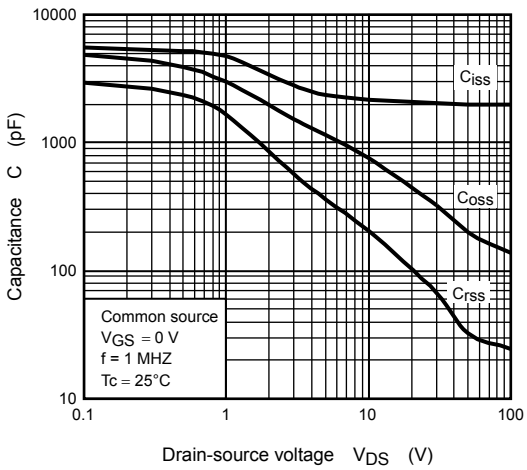
$|Y_{fs}| - I_D$



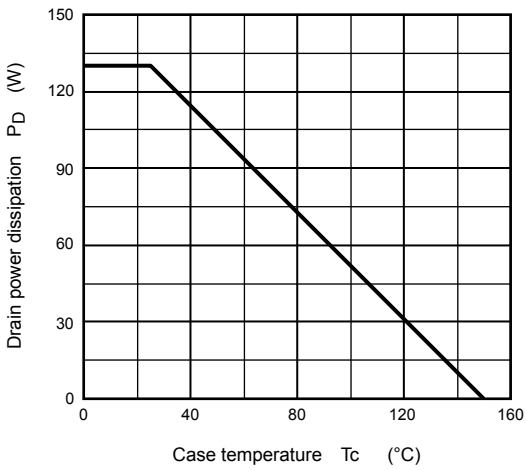
$V_{DS\ (ON)} - Tc$



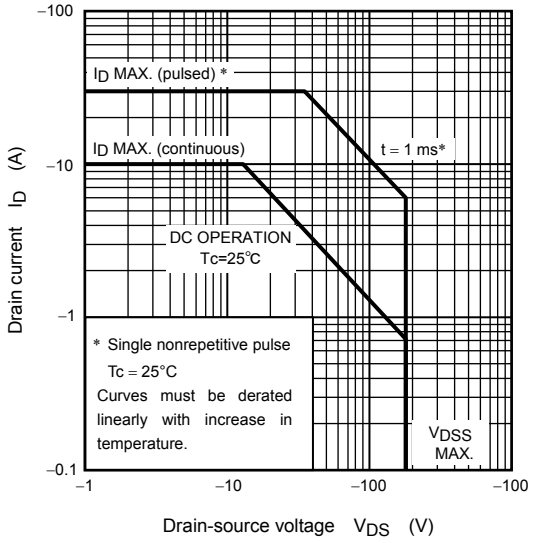
Capacitance – V_{DS}



$P_D - Tc$



Safe operating area



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