

2SK3199

External dimensions 1 FM20

Absolute Maximum Ratings (Ta = 25°C)

Symbol	Ratings	Unit
V _{DSS}	500	V
V _{GSS}	±30	V
I _D	±5	A
I _D (pulse) *1	±20	A
P _D	30 (Tc = 25°C)	W
E _{AS} *2	35	mJ
I _{AS}	5	A
T _{ch}	150	°C
T _{stg}	-55 to +150	°C

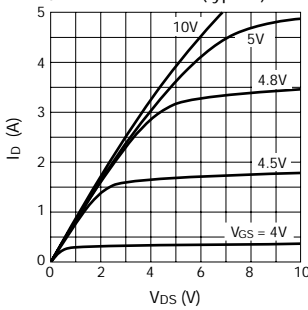
* 1: Pw ≤ 100μs, duty cycle ≤ 1%

* 2: V_{DD} = 30V, L = 2.6mH, I_L = 5A, unclamped, R_G = 50Ω, See Figure 1 on Page 5.

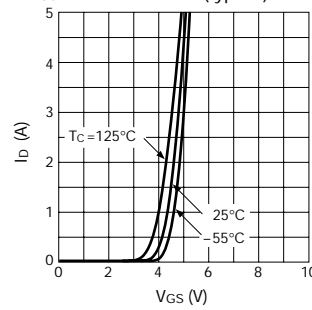
Electrical Characteristics (Ta = 25°C)

Symbol	Ratings			Unit	Conditions
	min	typ	max		
V _{(BR)DSS}	500			V	I _D = 100μA, V _{GS} = 0V
I _{GSS}			±100	nA	V _{GS} = ±30V
I _{DSS}			100	μA	V _{DS} = 500V, V _{GS} = 0V
V _{TH}	2.0	3.0	4.0	V	V _{DS} = 10V, I _D = 1mA
Re(yfs)	3.5	5.2		S	V _{DS} = 20V, I _D = 2.5A
R _{DS(on)}		1.2	1.5	Ω	V _{GS} = 10V, I _D = 2.5A
Ciss		650		pF	V _{DS} = 10V, f = 1.0MHz, V _{GS} = 0V
Coss		250		pF	
Crss		110		pF	
t _{d(on)}		18		ns	I _D = 2.5A, V _{DD} ≐ 250V, R _L = 100Ω, V _{GS} = 10V, See Figure 2 on Page 5.
t _r		30		ns	
t _{d(off)}		60		ns	
t _f		65		ns	
V _{SD}	0.9	1.5		V	I _{SD} = 5A, V _{GS} = 0V
t _{rr}		2		μs	I _{SD} = ±100mA, V _{GS} = 0V

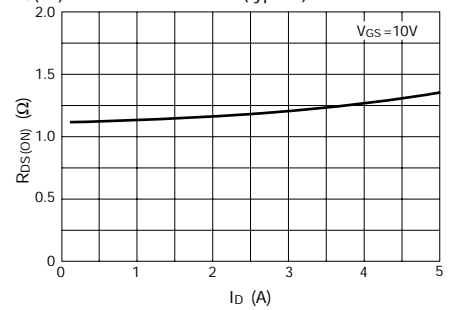
I_D - V_{DS} Characteristics (typical)



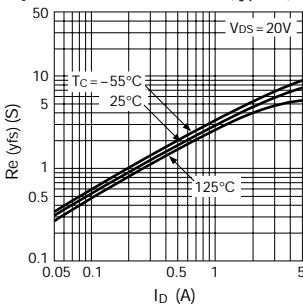
I_D - V_{GS} Characteristics (typical)



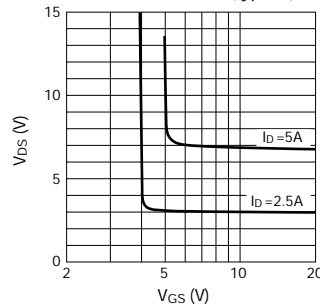
R_{DS(on)} - I_D Characteristics (typical)



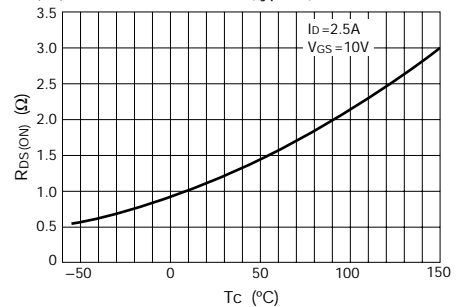
Re(yfs) - I_D Characteristics (typical)



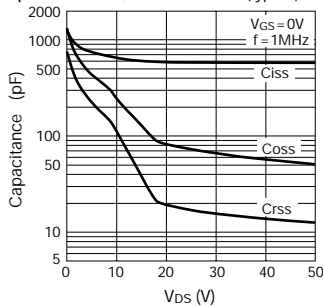
V_{DS} - V_{GS} Characteristics (typical)



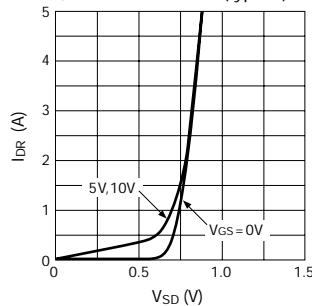
R_{DS(on)} - Tc Characteristics (typical)



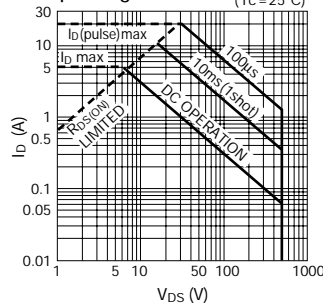
Capacitance - V_{DS} Characteristics (typical)



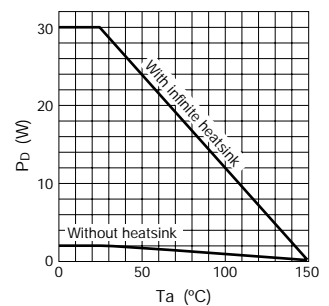
I_{DR} - V_{SD} Characteristics (typical)



Safe Operating Area (Tc = 25°C)



P_D - Ta Characteristics

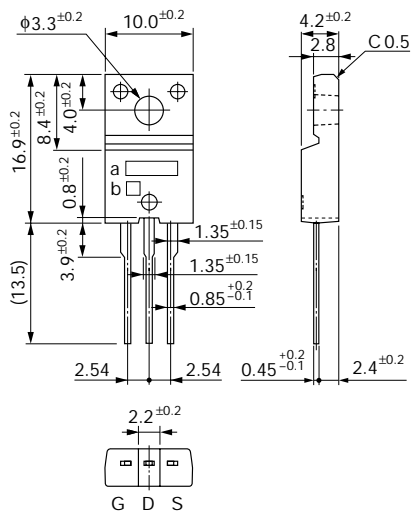


External dimensions (Unit: mm)

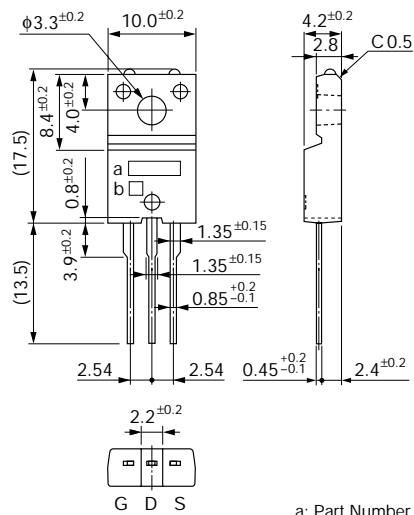
① FM20 (TO-220F)

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General product



UL approved product

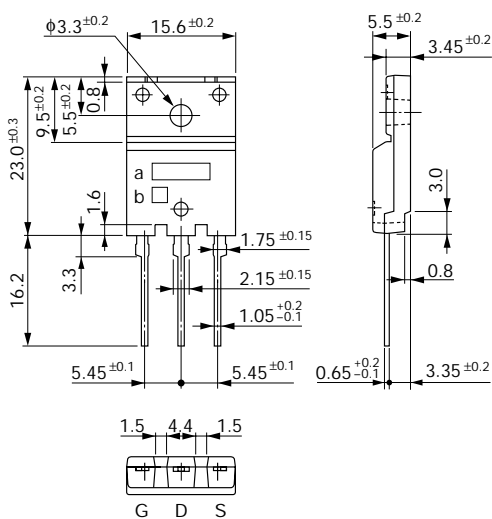


a: Part Number
b: Lot Number

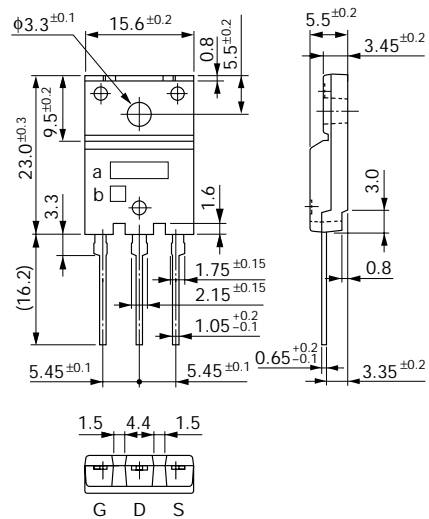
Weight: Approx 2.0g

② FM100 (TO-3PF)

General product



UL approved product



a: Part Number
b: Lot Number

Weight: Approx 6.5g