2SK3199

External dimensions 1 ..... FM20

Absolute Maximum Ratings (Ta = 25ºC)

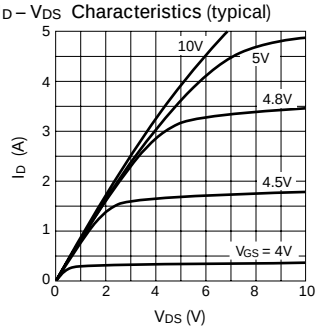
Symbol	Ratings	Unit
V_{DSS}	500	V
V_{GSS}	±30	V
I_D	±5	A
$I_{D\ (pulse)}$ *1	±20	A
P_D	30 (Tc = 25ºC)	W
E_{AS} *2	35	mJ
I_{AS}	5	A
Tch	150	ºC
Tstg	–55 to +150	ºC

*1: $P_W \leqq 100\mu s$, duty cycle ≦ 1%
*2: V_{DD} = 30V, L = 2.6mH, I_L = 5A, unclamped, $R_G = 50\Omega$, See Figure 1 on Page 5.

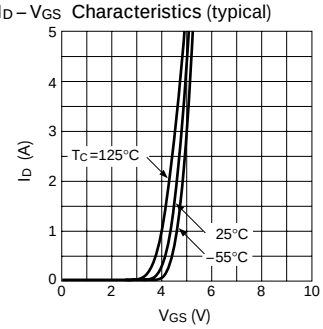
Electrical Characteristics (Ta = 25ºC)

Symbol	Ratings min	Ratings typ	Ratings max	Unit	Conditions
$V_{(BR)DSS}$	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, $V_{DD} \fallingdotseq$ 250V, $R_L = 100\Omega$, 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

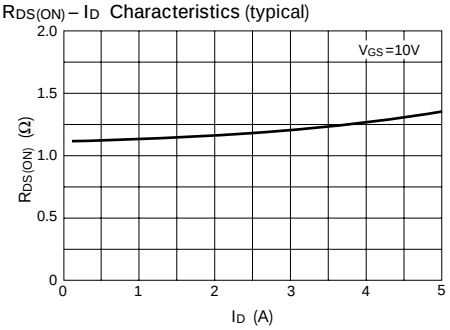
I_D – V_{DS} Characteristics (typical)



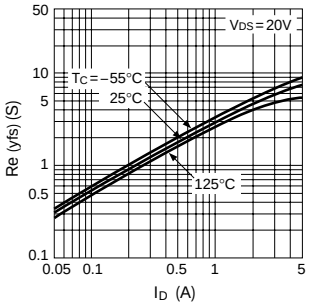
I_D – V_{GS} Characteristics (typical)



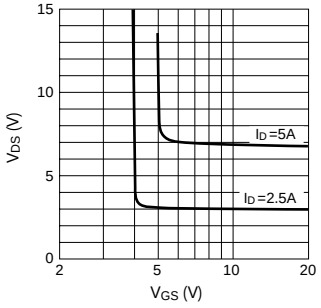
$R_{DS(ON)}$ – I_D Characteristics (typical)



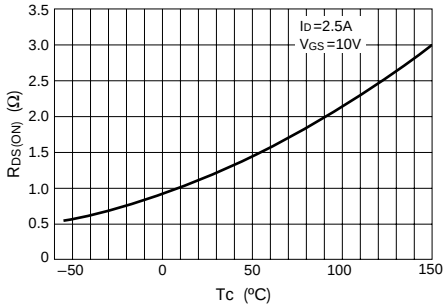
Re(yfs) – I_D Characteristics (typical)



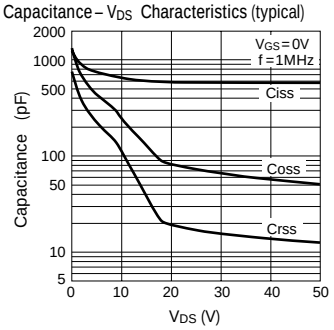
V_{DS} – V_{GS} Characteristics (typical)



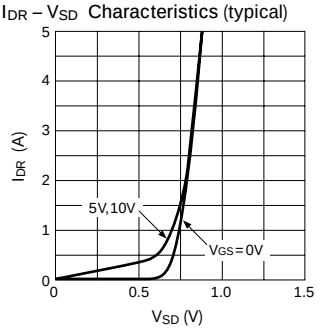
$R_{DS(ON)}$ – T_C Characteristics (typical)



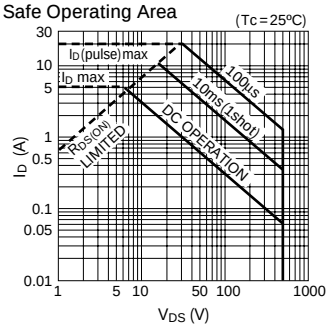
Capacitance – V_{DS} Characteristics (typical)



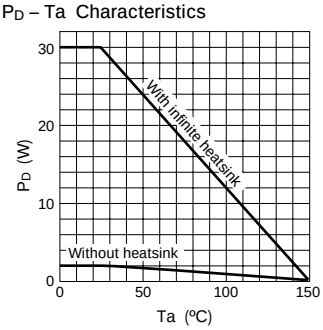
I_{DR} – V_{SD} Characteristics (typical)



Safe Operating Area (Tc = 25ºC)



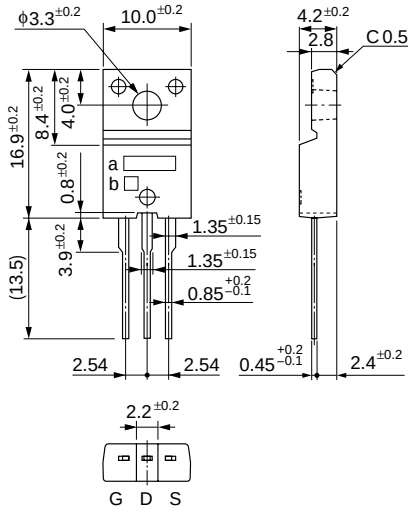
P_D – Ta Characteristics



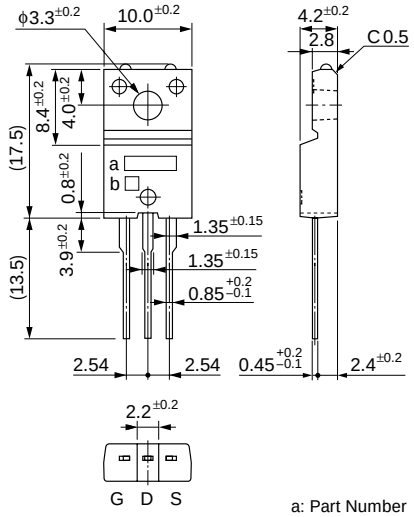
External dimensions (Unit: mm)

❶ FM20 (TO-220F)

General product



UL approved product

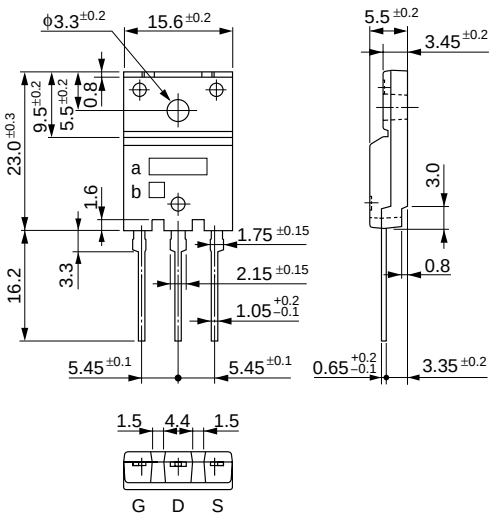


a: Part Number
b: Lot Number

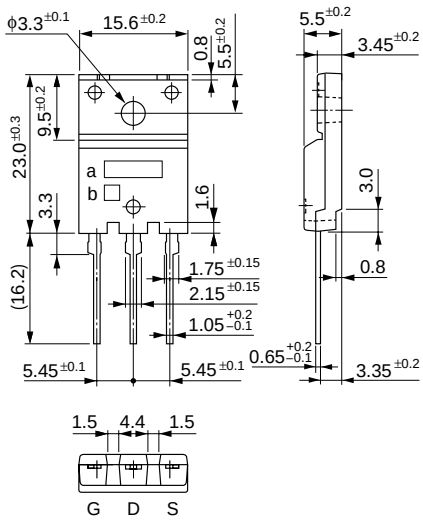
Weight: Approx 2.0g

❷ FM100 (TO-3PF)

General product



UL approved product



a: Part Number
b: Lot Number

Weight: Approx 6.5g