

Absolute Maximum Ratings (Ta = 25°C)

Symbol	Ratings	Unit
V_{DSS}	450	V
V_{GSS}	± 30	V
I_D	± 3	A
I_D (pulse) *1	± 12	A
P_D	30 ($T_c = 25^\circ\text{C}$)	W
E_{AS} *2	30	mJ
I_{AS}	3	A
T_{ch}	150	°C
T_{stg}	-55 to +150	°C

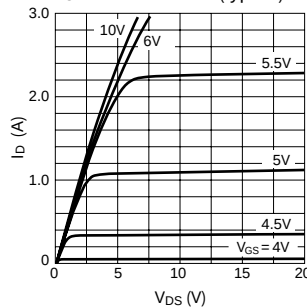
*1: $P_w \leq 100\mu\text{s}$, duty cycle $\leq 1\%$

*2: $V_{DD} = 30\text{V}$, $L = 6.3\text{mH}$, $I_L = 3.0\text{A}$, unclamped, $R_G = 50\Omega$, See Figure 1 on Page 5.

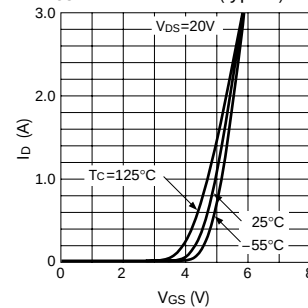
Electrical Characteristics (Ta = 25°C)

Symbol	Ratings			Unit	Conditions
	min	typ	max		
$V_{(BR) DSS}$	450			V	$I_D = 100\mu\text{A}$, $V_{GS} = 0\text{V}$
I_{GSS}			± 100	nA	$V_{GS} = \pm 30\text{V}$
I_{DSS}			100	μA	$V_{DS} = 450\text{V}$, $V_{GS} = 0\text{V}$
V_{TH}	2.0		4.0	V	$V_{DS} = 10\text{V}$, $I_D = 1\text{mA}$
$R_{e(yfs)}$	1.5	2.1		S	$V_{DS} = 20\text{V}$, $I_D = 1.5\text{A}$
$R_{DS(on)}$		2.1	2.8	Ω	$V_{GS} = 10\text{V}$, $I_D = 1.5\text{A}$
C_{iss}		340		pF	$V_{DS} = 10\text{V}$, $f = 1.0\text{MHz}$, $V_{GS} = 0\text{V}$
C_{oss}		75		pF	
C_{rss}		26		pF	
$t_d(on)$		18		ns	$I_D = 1.5\text{A}$, $V_{DD} \approx 200\text{V}$, $R_L = 133\Omega$, $V_{GS} = 10\text{V}$, See Figure 2 on Page 5.
t_r		30		ns	
$t_d(off)$		45		ns	
t_f		85		ns	
V_{SD}		0.9	1.4	V	$I_{SD} = 3\text{A}$, $V_{GS} = 0\text{V}$

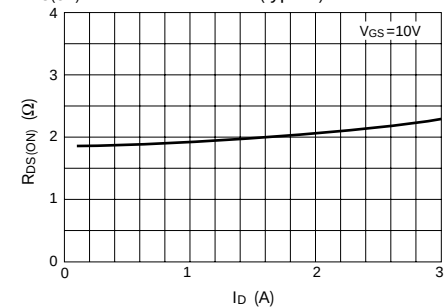
$I_D - V_{DS}$ Characteristics (typical)



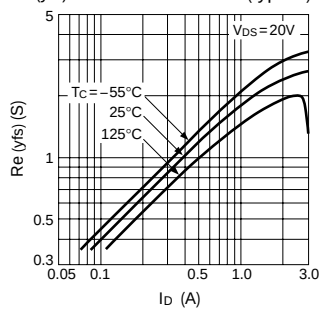
$I_D - V_{GS}$ Characteristics (typical)



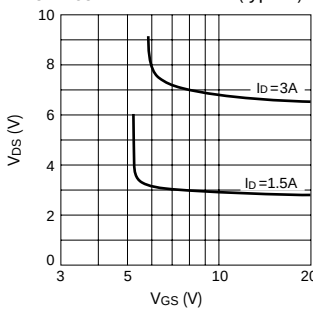
$R_{DS(on)} - I_D$ Characteristics (typical)



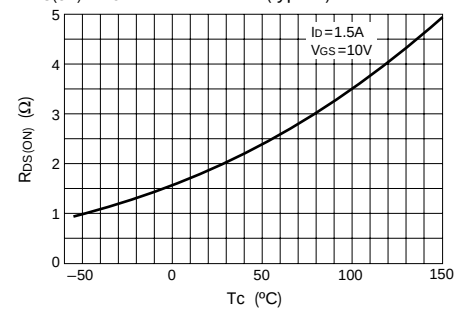
$R_{e(yfs)} - I_D$ Characteristics (typical)



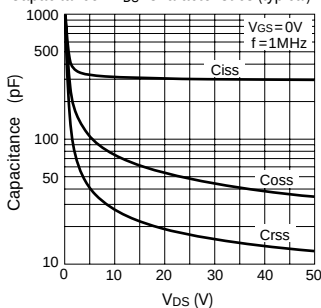
$V_{DS} - V_{GS}$ Characteristics (typical)



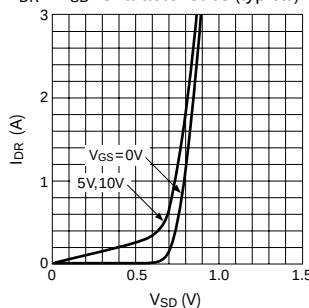
$R_{DS(on)} - T_c$ Characteristics (typical)



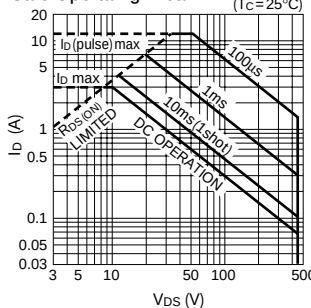
Capacitance - V_{DS} Characteristics (typical)



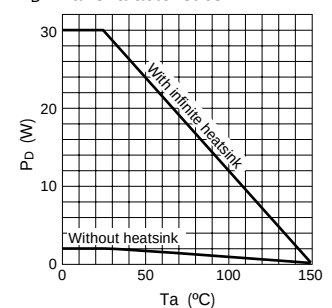
$I_{DR} - V_{SD}$ Characteristics (typical)



Safe Operating Area (Tc = 25°C)



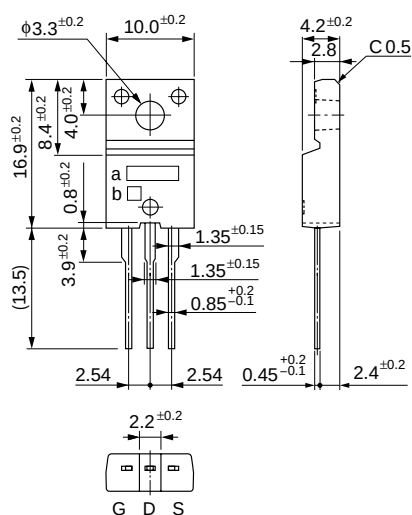
$P_D - T_a$ Characteristics



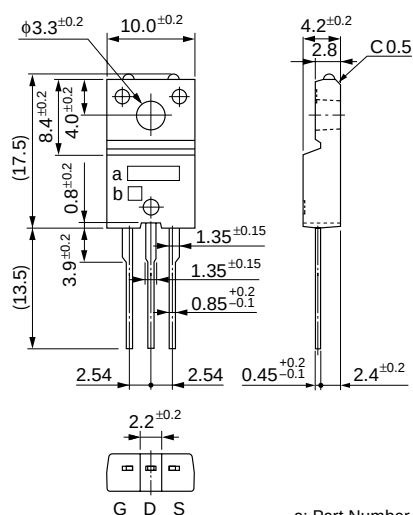
External dimensions (Unit: mm)

① FM20 (TO-220F)

General product



UL approved product

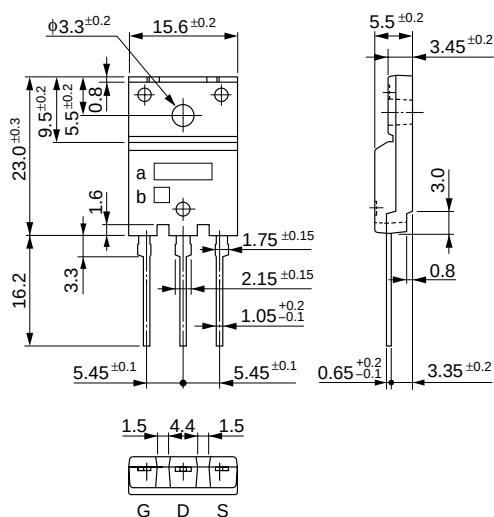


a: Part Number
b: Lot Number

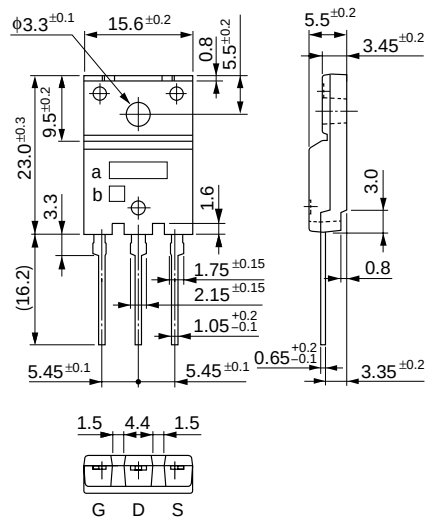
Weight: Approx 2.0g

② FM100 (TO-3PF)

General product



UL approved product



a: Part Number
b: Lot Number

Weight: Approx 6.5g