

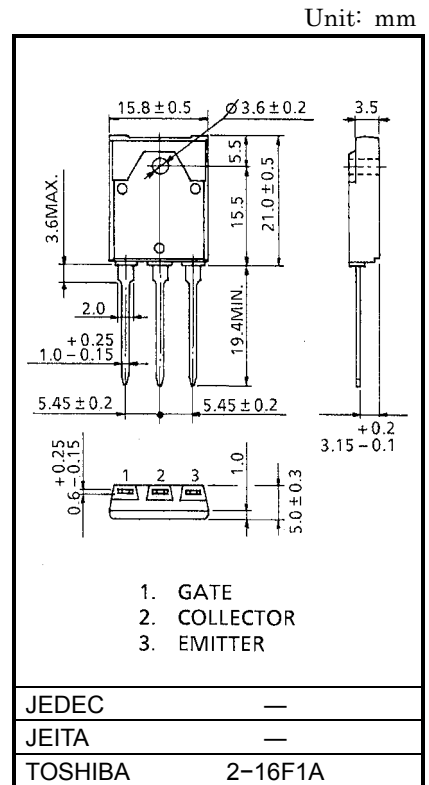
# GT15M321

## HIGH POWER SWITCHING APPLICATIONS

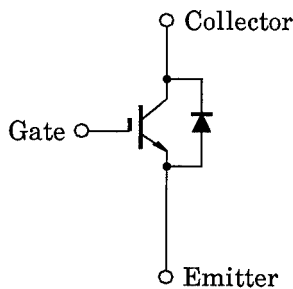
- The 4th Generation
- FRD Included Between Emitter and Collector
- Enhancement-Mode
- High Speed :  $t_f = 0.20 \mu s$  (TYP.) ( $I_C = 15 A$ )
- Low Saturation Voltage :  $V_{CE(sat)} = 1.8V$  (TYP.) ( $I_C = 15A$ )

## MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Emitter Voltage	$V_{CES}$	900	V
Gate-Emitter Voltage	$V_{GES}$	$\pm 25$	V
Collector Current	DC	$I_C$	15
	1ms	$I_{CP}$	30
Emitter-Collector Forward Current	DC	$I_F$	15
	1ms	$I_{FM}$	120
Collector Power Dissipation (Tc = 25°C)	$P_C$	55	W
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_{stg}$	-55~150	°C

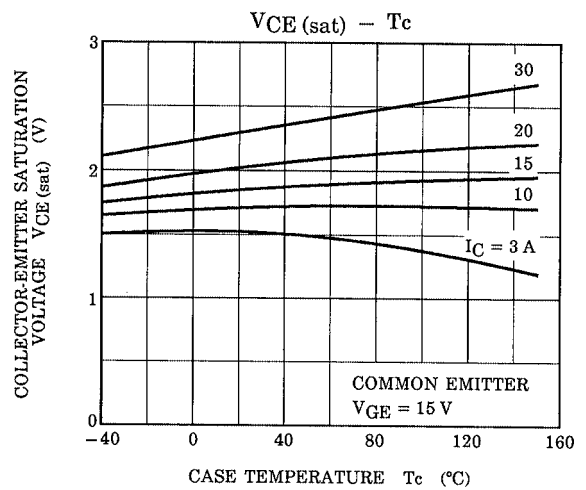
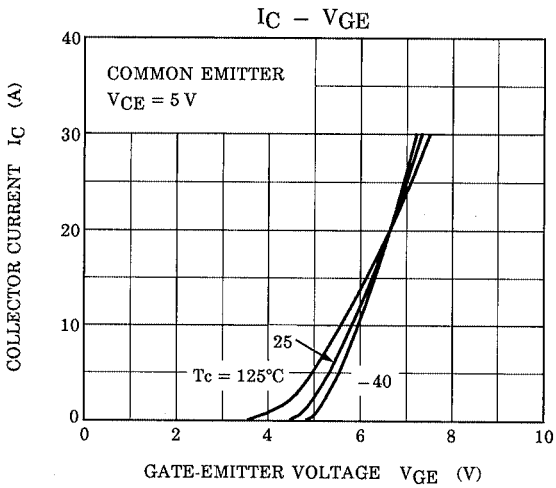
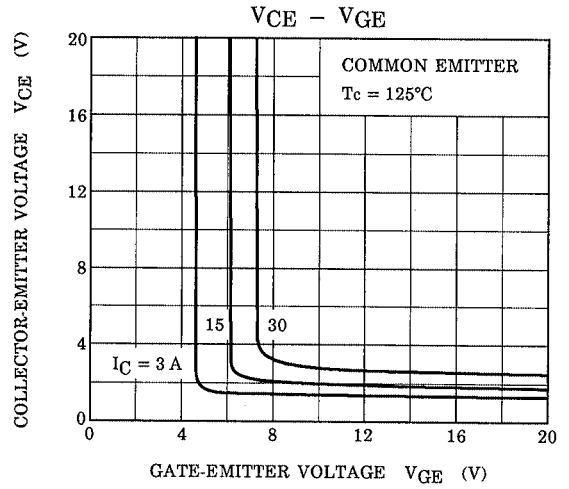
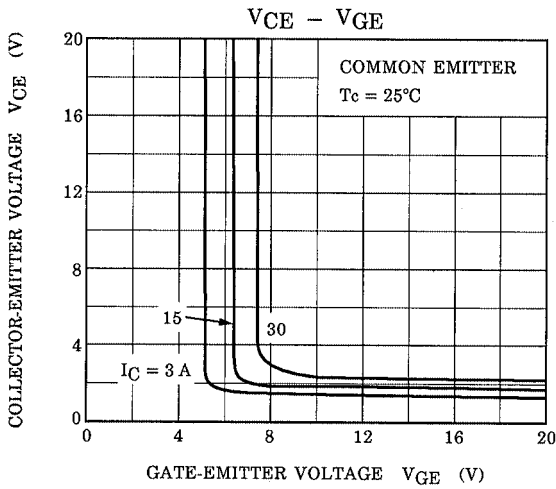
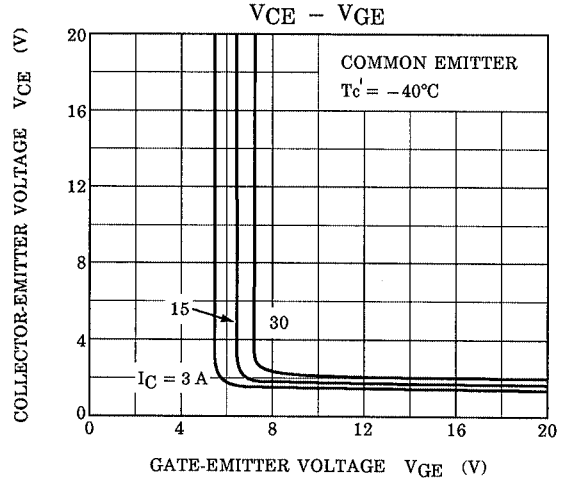
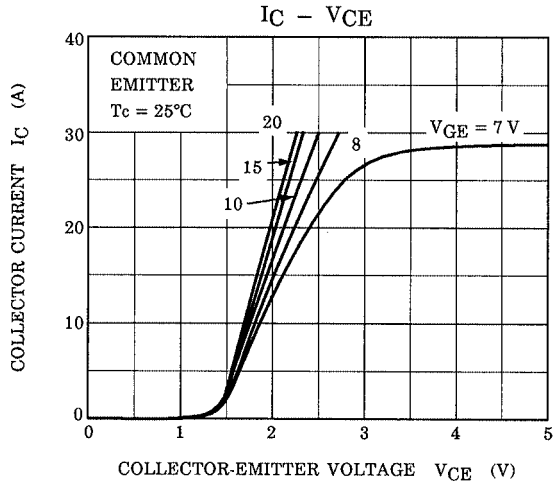


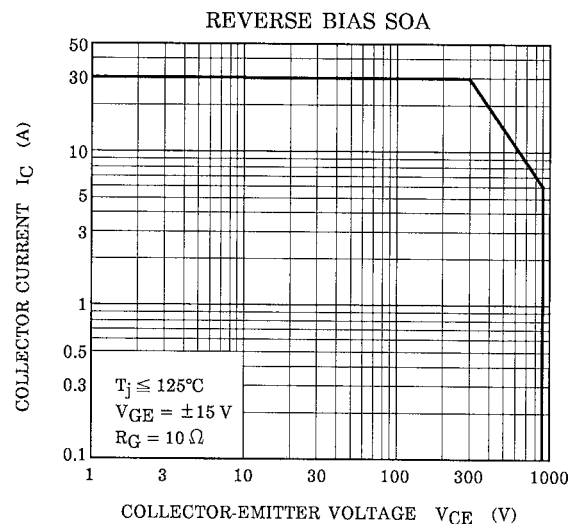
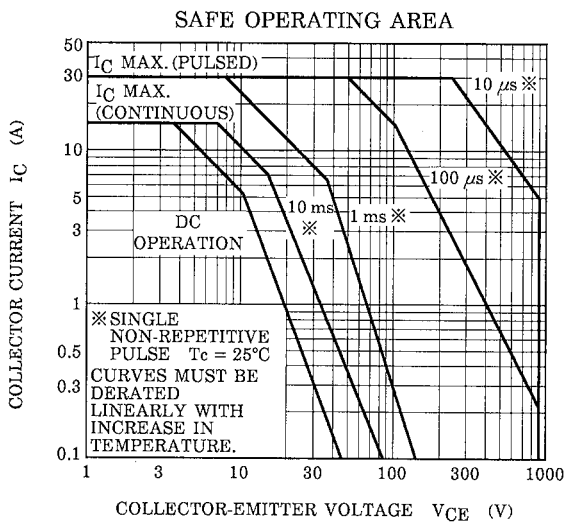
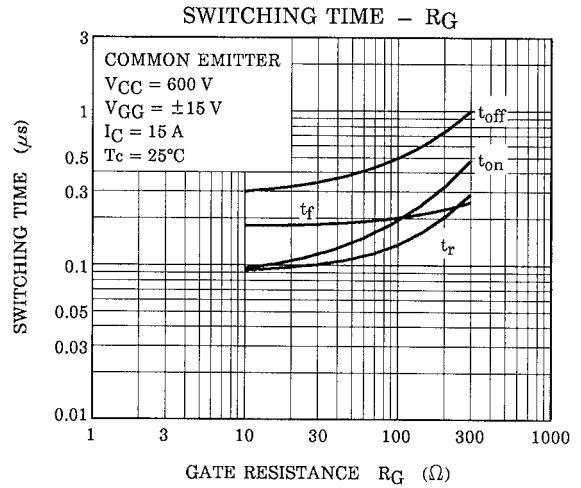
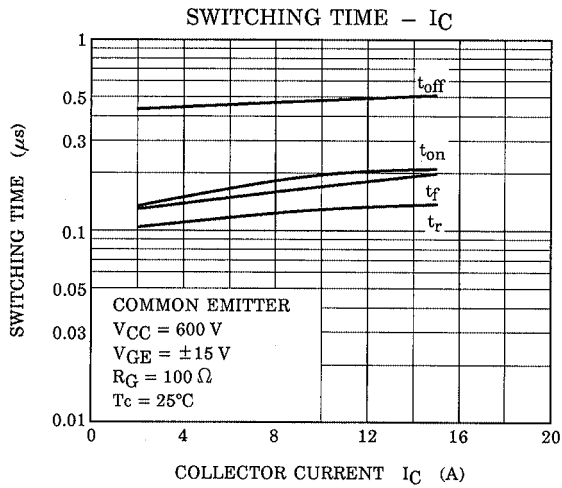
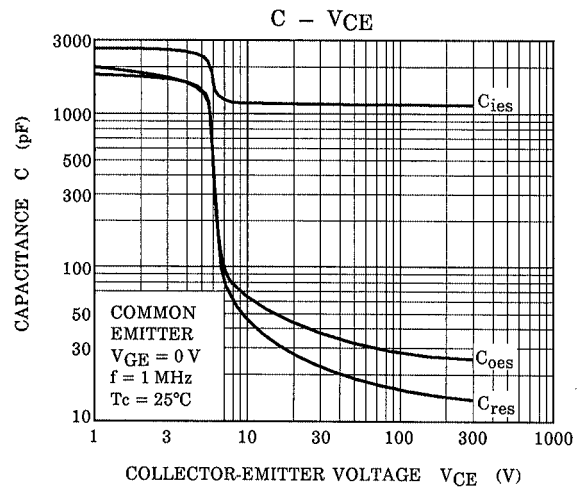
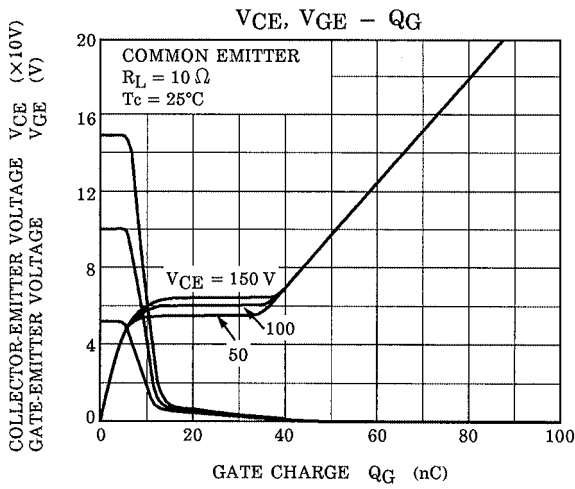
## EQUIVALENT CIRCUIT

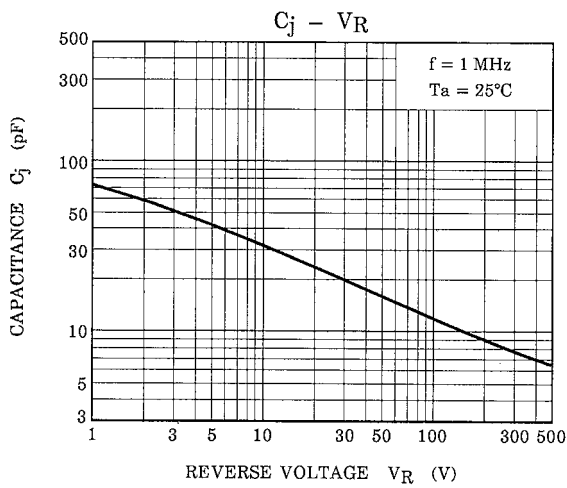
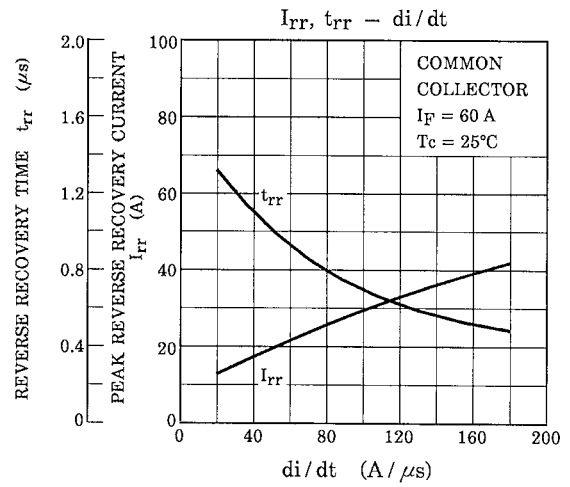
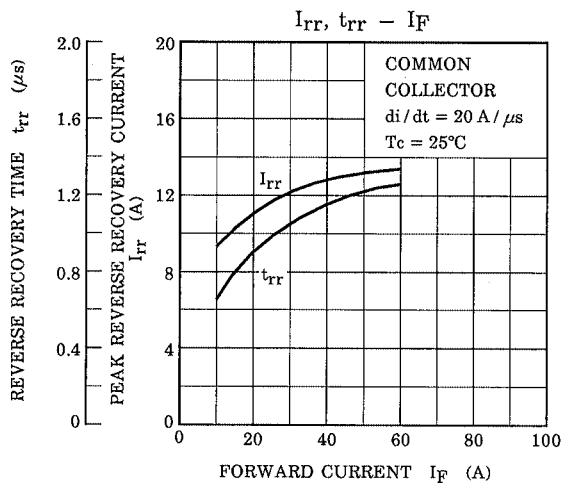
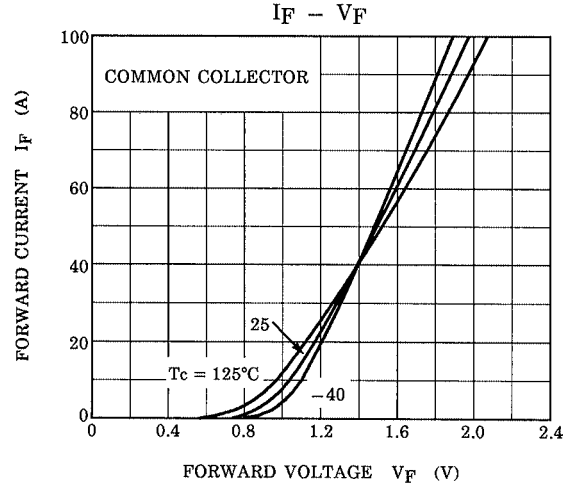
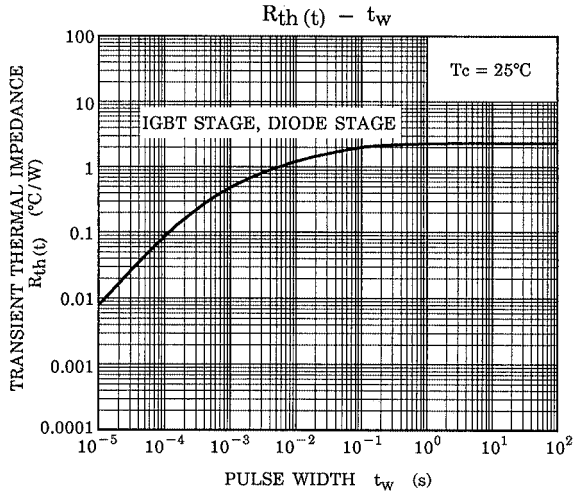


## ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT
Gate Leakage Current		$I_{GES}$	$V_{GE} = \pm 25 \text{ V}, V_{CE} = 0$	—	—	$\pm 500$	nA
Collector Cut-off Current		$I_{CES}$	$V_{CE} = 900 \text{ V}, V_{GE} = 0$	—	—	1.0	mA
Gate-Emitter Cut-off Voltage		$V_{GE}(\text{OFF})$	$I_C = 15 \text{ mA}, V_{CE} = 5 \text{ V}$	3.0	—	6.0	V
Collector-Emitter Saturation Voltage		$V_{CE}(\text{sat})$	$I_C = 15 \text{ A}, V_{GE} = 15 \text{ V}$	—	1.8	2.5	V
Input Capacitance		$C_{ies}$	$V_{CE} = 10 \text{ V}, V_{GE} = 0, f = 1 \text{ MHz}$	—	1200	—	pF
Switching Time	Rise Time	$t_r$		—	0.20	—	$\mu\text{s}$
	Turn-on Time	$t_{on}$		—	0.30	—	
	Fall Time	$t_f$		—	0.20	0.40	
	Turn-off Time	$t_{off}$		—	0.50	—	
Emitter-Collector Forward Voltage		$V_F$	$I_{EC} = 15 \text{ A}, V_{GE} = 0$	—	1.5	2.0	V
Reverse Recovery Time		$t_{rr}$	$I_F = 15 \text{ A}, V_{GE} = 0$ $di/dt = -20 \text{ A}/\mu\text{s}$	—	0.7	2.5	$\mu\text{s}$
Thermal Resistance		$R_{th(j-c)}$	IGBT	—	—	2.27	$^{\circ}\text{C}/\text{W}$
Thermal Resistance		$R_{th(j-c)}$	Diode	—	—	2.27	$^{\circ}\text{C}/\text{W}$







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