

BRGB20N65FL

Rev.A Mar.-2026

/ Descriptions

TO-220FL

Insulated-Gate Bipolar Transistor in a TO-220FL Plastic Package.

/ Features

650V/20A $V_{CE(SAT)} = 1.45V(\text{typ.}) @ I_C = 20A$

Low gate charge

Trench FS Trench FS Technology

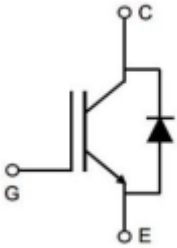
RoHS RoHS product

/ Applications

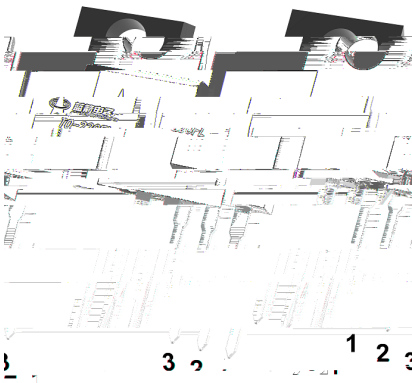
L GJ

General purpose inverters,UPS.

/ Equivalent Circuit



/ Pinning



PIN1 G

PIN 2 C

PIN 3 E

/ Marking

See Marking Instructions.

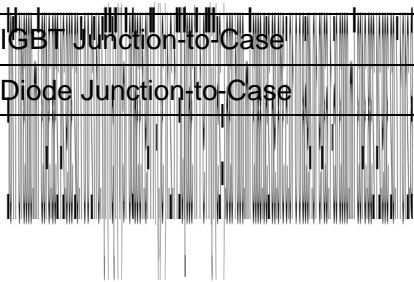
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DATA SHEET

Parameter		Symbol	Rating	Unit
Collector-Emitter Voltage		V_{CES}	650	V
Continuous Collector Current	$T_C=+25$	I_C	40	A
	$T_C=+100$		20	A
Pulsed Collector Current , Limited by T_{Jmax}		I_{CM}	80	A
Continuous Diode Forward Current	$T_C=+25$	I_F	40	A
	$T_C=+100$		20	A
Surge non repetitive forward current $t_p= 8.3$ ms sinusoidal		I_{FSM}	120	A
Gate-Emitter Voltage		V_{GE}	± 30	V
Power Dissipation	$T_C=+25$	P_D	48	W
Operating and Storage Temperature Range		T_{STG}	-55 to +175	
Operating Temperature Range		T_J	-55 to +175	
Maximum Junction-to-Ambient		R_{JA}	78	/W
Maximum IGBT Junction-to-Case		R_{JC}	3.10	/W
Maximum Diode Junction-to-Case		R_{JC}	4.12	/W



Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage	BV_{CES}	$I_C=250\mu A, V_{GE}=0V$	650			V

Zero Gate Voltage Collector current I_{CES} $V_{CE}=650V, V_{GE}=0V$ 194.00=2558 0 T_C 35 μA
 $T_J=25$

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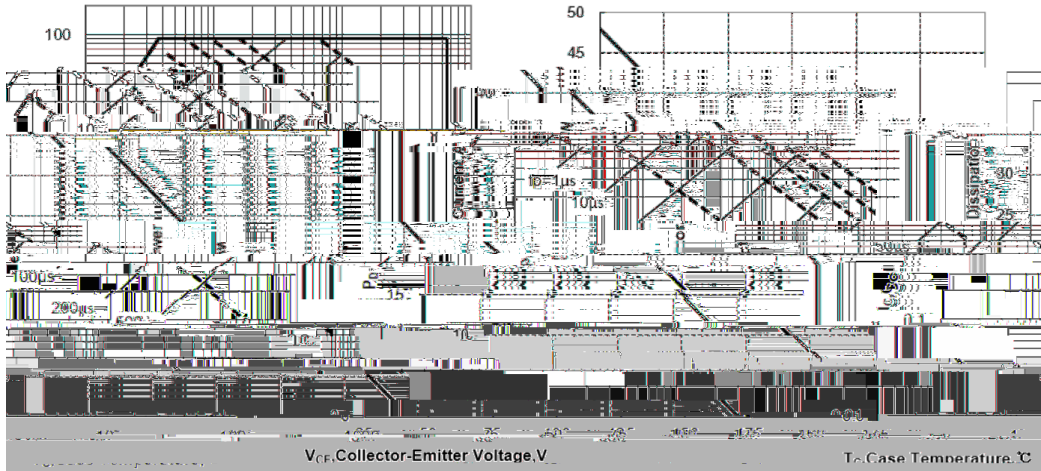


蓝箭电子
BLUE ROCKET ELECTRONICS

DATA SHEET

Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$V_{GE}=15V,$ $I_C=20A$	$T_J=25$	1.45	1.82	V
			$T_J=125$	1.68		
			$T_J=175$	1.93		
Diode Forward Voltage	V_F	$V_{GE}=0V,$ $I_F=20A$	$T_J=25$	1.40	1.84	V
			$T_J=125$	1.24		
			$T_J=175$	1.14		
Input Capacitance	C_{ies}	$V_{GE}=0V, V_{CE}=25V,$ $f=1MHz, T_J=25$		1420		pF
Output Capacitance	C_{oes}			72		pF

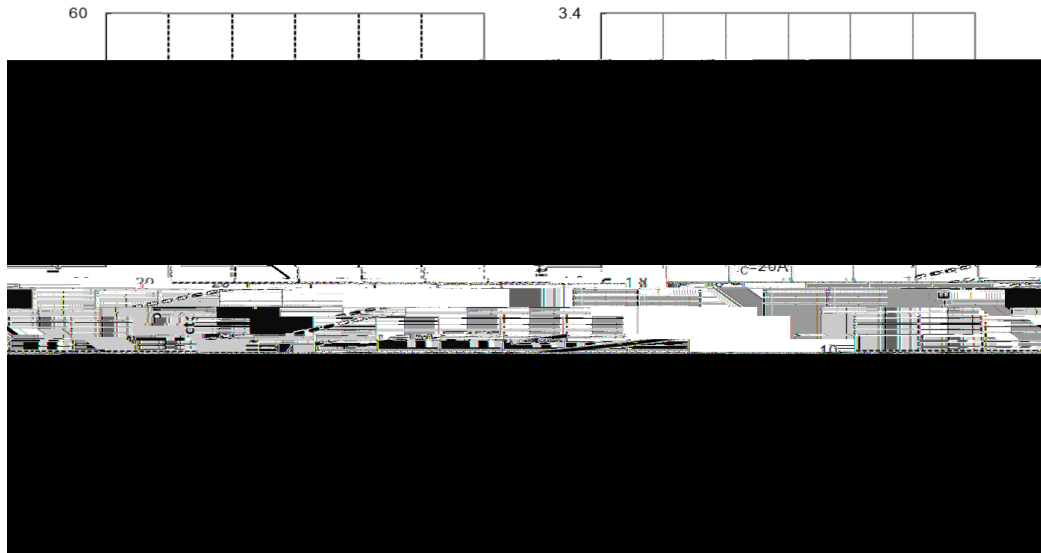
/ Electrical Characteristic Curve



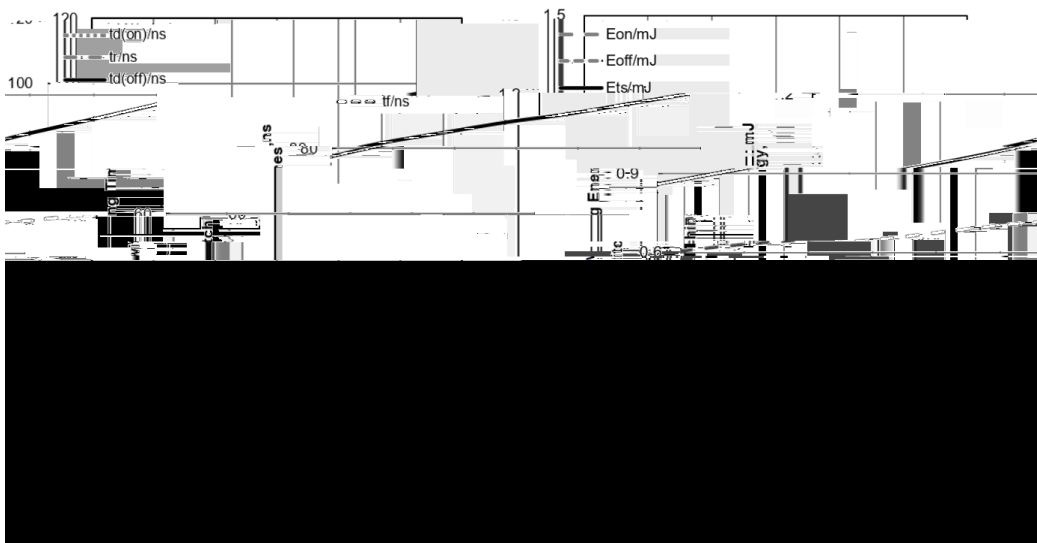
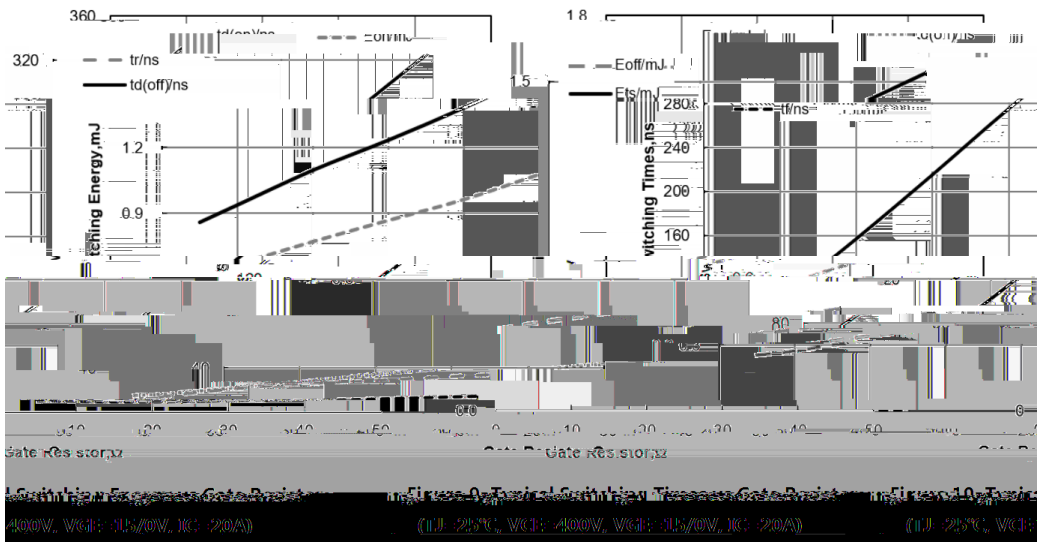
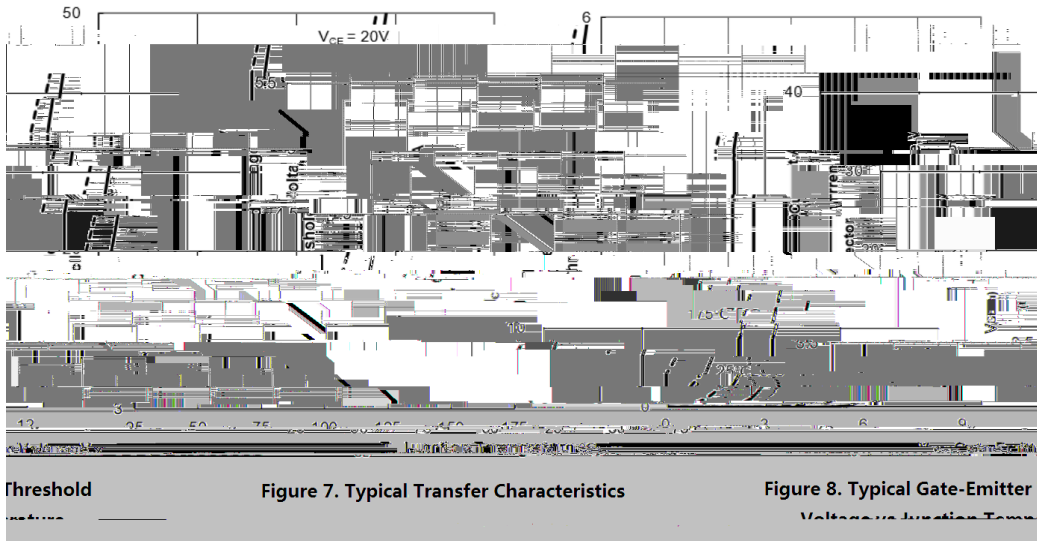
Power Dissipation vs Case Temperature

Figure 1. Forward Bias Safe Operating Area

Figure 2. Po



/ Electrical Characteristic Curve



/ Electrical Characteristic Curve

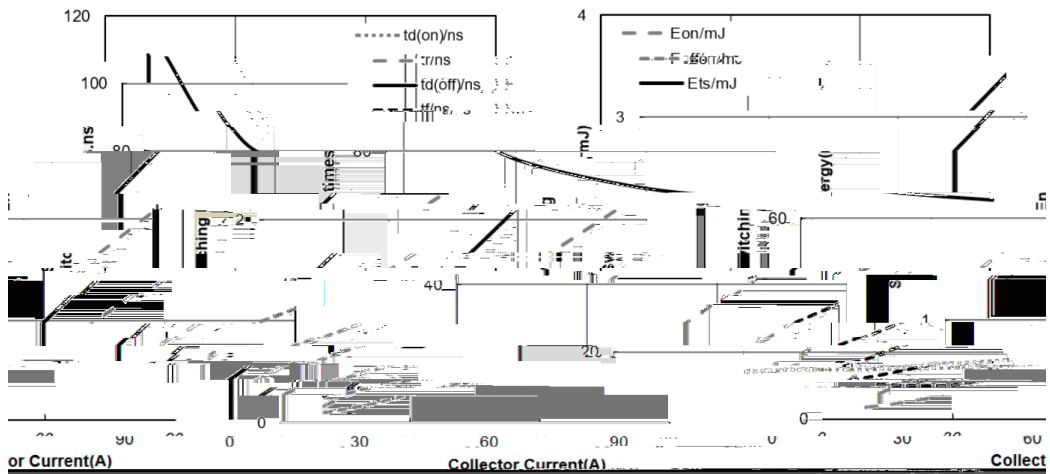


Figure 13. Typical Switching Times vs Collector Current (TI=25°C, VCE=400V, VGE=15.0V)
Figure 14. Typical Switching Energy vs Collector Current (TI=25°C, VCE=400V, VGE=15.0V)

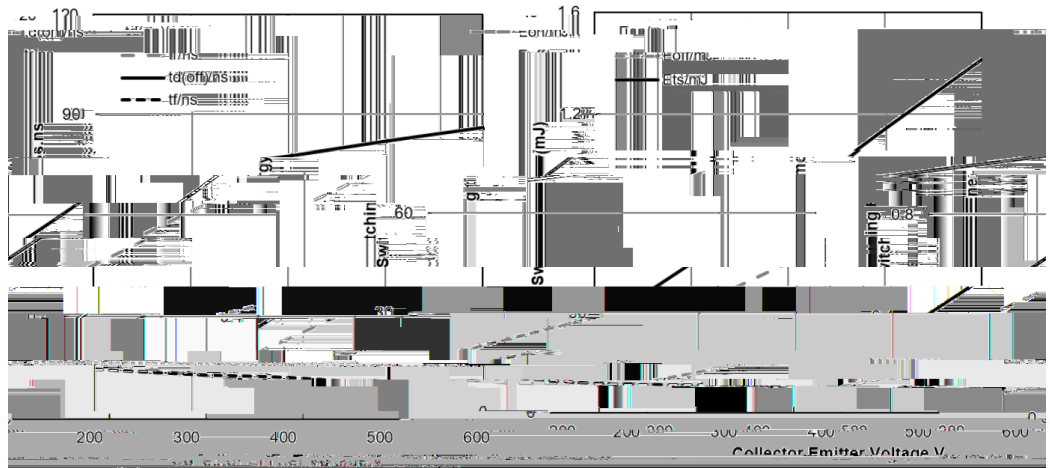


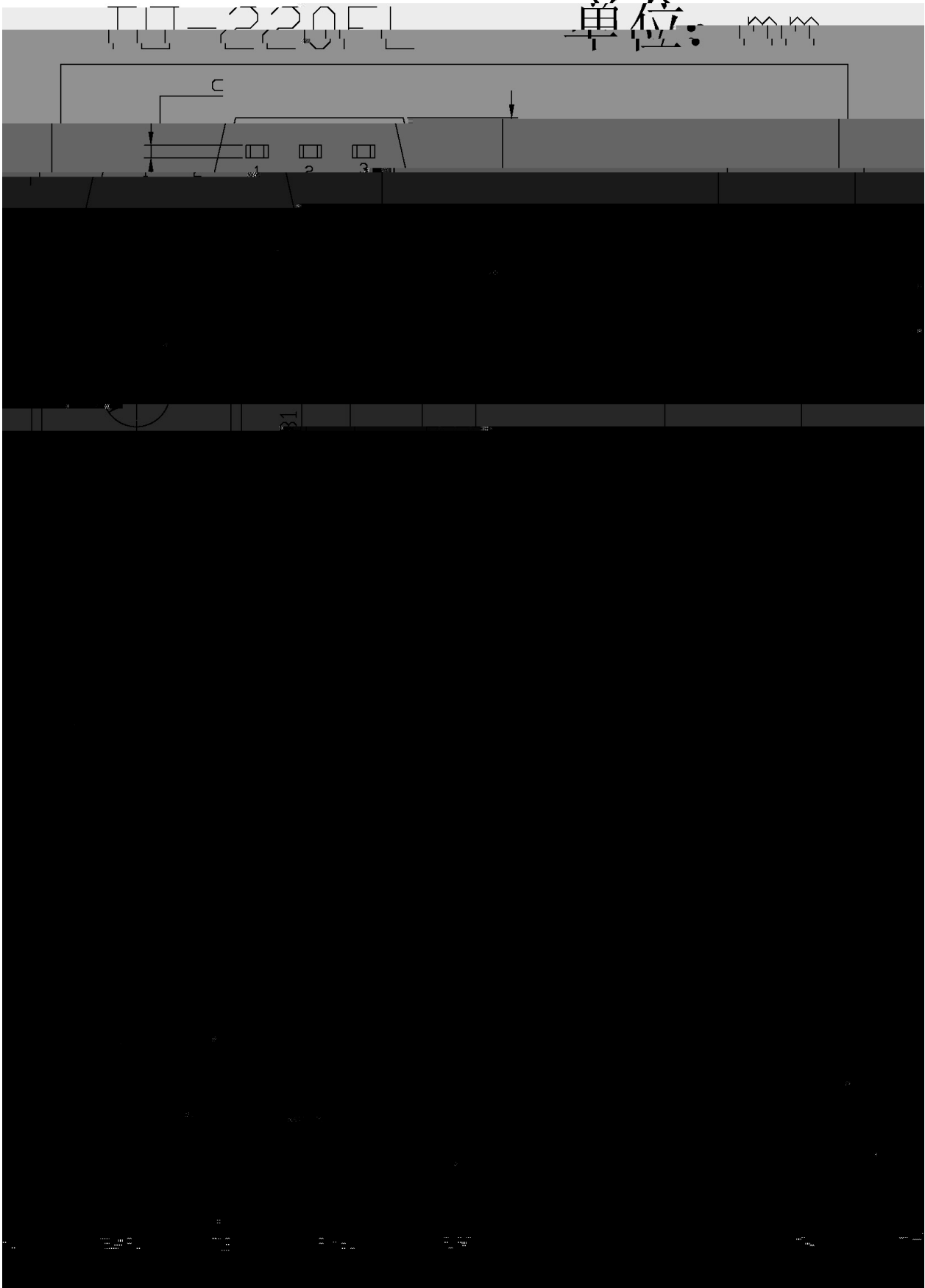
Figure 15. Typical Switching Times vs VCE (TI=25°C, IC=20A, VGE=15.0V)
Figure 16. Typical Switching Energy vs VCE (TI=25°C, IC=20A, VGE=15.0V)



Figure 17. Typical Capacitance vs Collector-Emitter Voltage (IC=20A, VGE=15.0V)
Figure 18. Typical Gate Charge vs Collector-Emitter Voltage (IC=20A, VGE=15.0V)

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/ Package Dimensions



/ Marking Instructions

