

BRGB40N65AHA

Rev.A Jan.-2026

DATA SHEET

BRGB40N65AHA

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Parameter	Symbol	Rating	Unit	
Collector-Emitter Voltage	V_{CES}	650	V	
Gate-Emitter Voltage	V_{GES}	± 30	V	
Continuous Collector Current	I_C	$T_C=25$	80	A
		$T_C=100$	40	A
Pulsed Collector Current , Limited by T_{Jmax}		I_{CM}	160	A
Continuous Diode Forward Current	I_F	$T_C=25$	80	A
		$T_C=100$	40	A
Diode Repetitive Peak Forward Current		I_{FRM}	160	A
Short circuit withstand time		t_{sc}	9	μs
Power Dissipation	$T_C=25$	P_D	395	W
Storage Temperature Range		T_{STG}	-55 to +175	
Maximum Temperature for Soldering		T_L	260	
Maximum Junction-to-Ambient		R_{JA}	40	/W
Maximum IGBT Junction-to-Case		R_{JC}	0.38	/W

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage	BV_{CES}	$I_C=1mA$ $V_{GE}=0V$	650			V
Zero Gate Voltage Collector current	I_{CES}	$V_{CE}=650V,$ $V_{GE}=0V$			10	μA
Gate-Emitter Leakage Current	I_{GES}	$V_{CE}=0V,$ $V_{GE}=\pm 20V$				

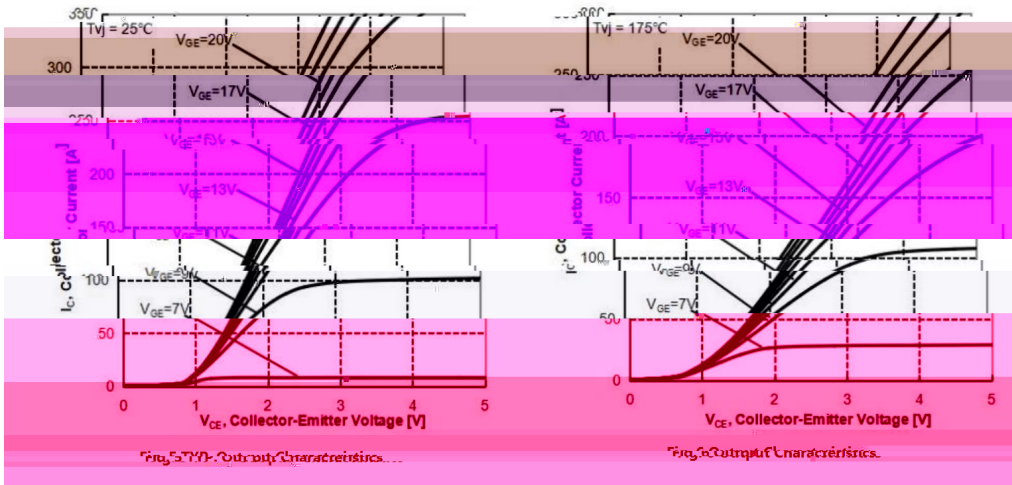
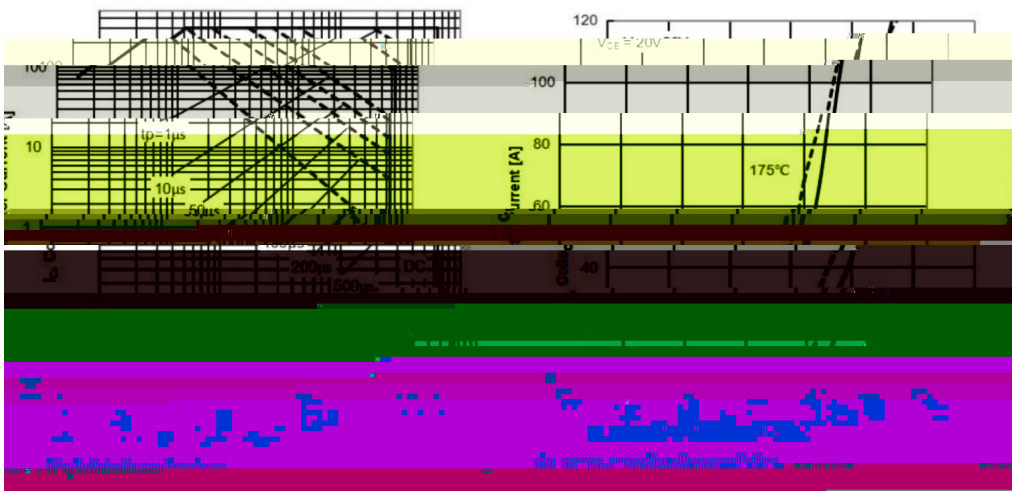
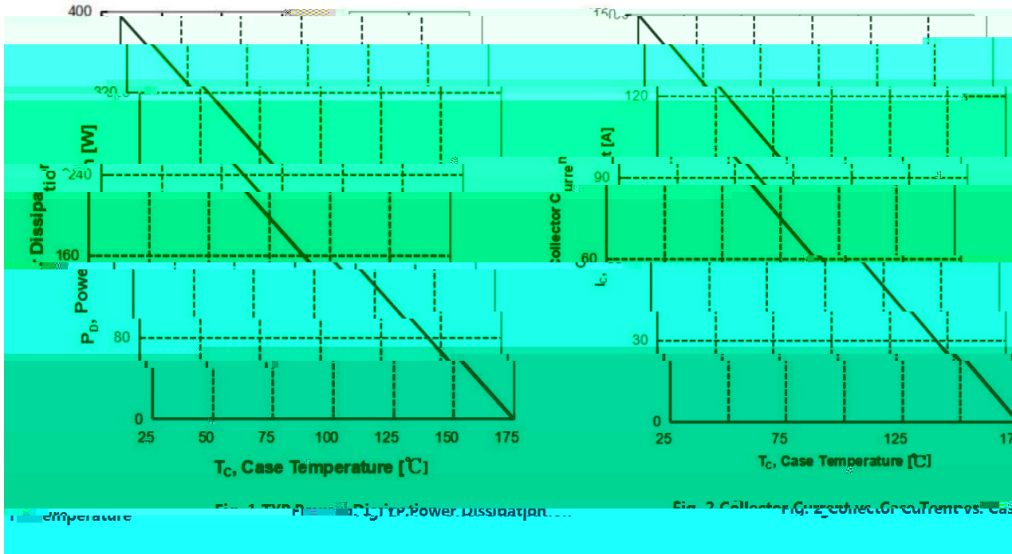
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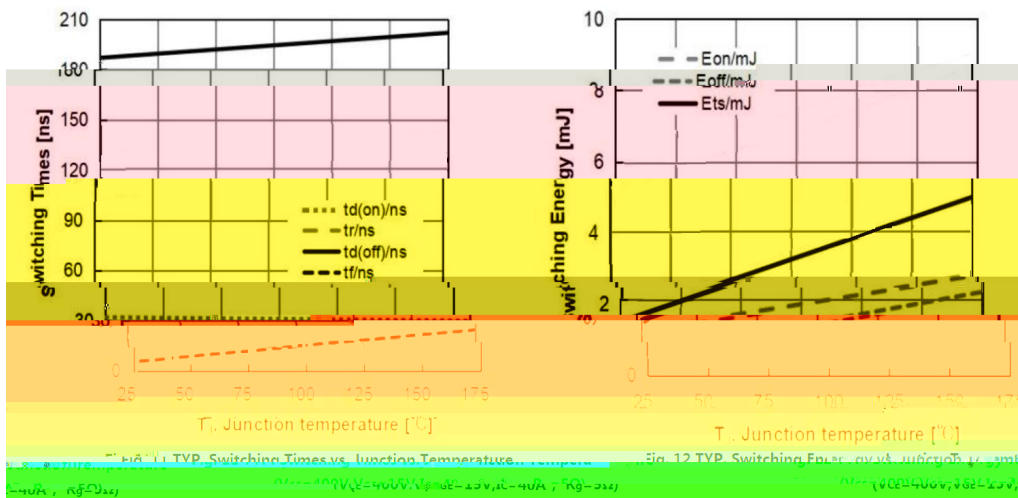
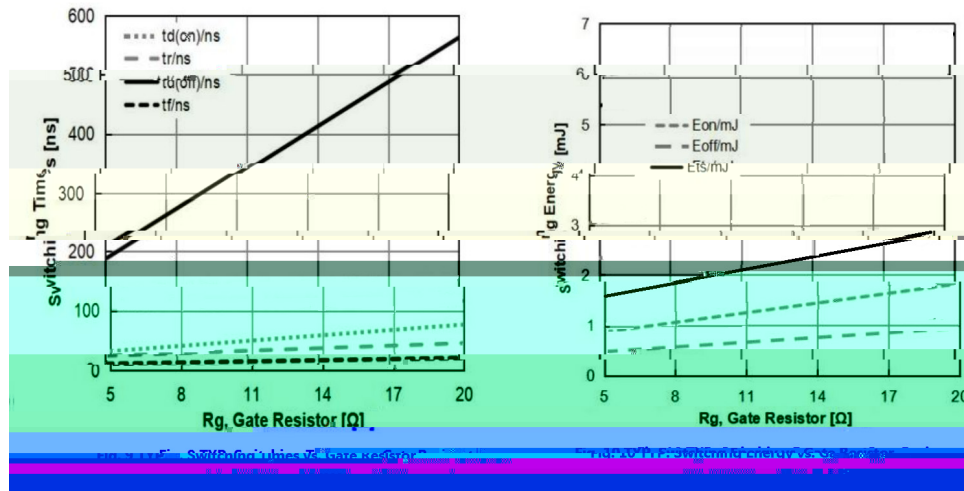
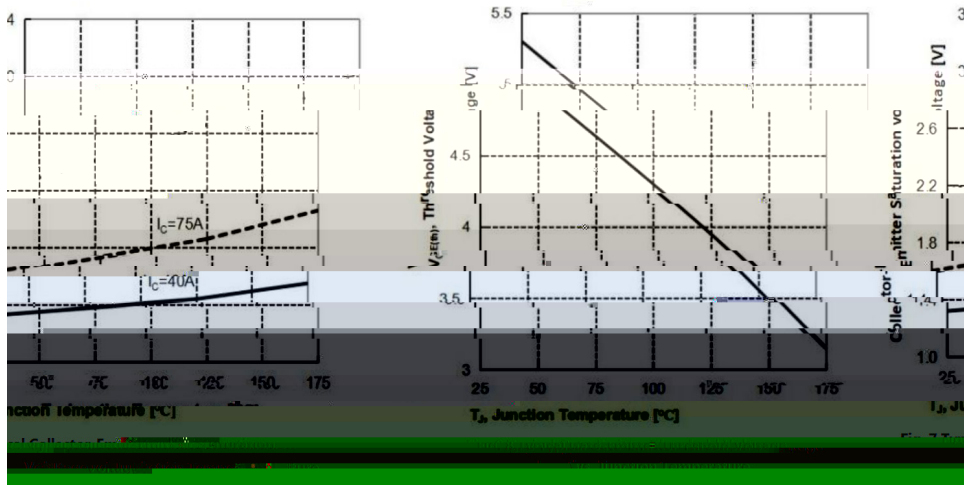
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GE}=15V,$ $V_{CE}=400V$ $I_C=40A,$ $R_G=5$ Inductive Load	$T_C=25$		32	ns
			$T_C=175$		30	
Turn-On Rise Time	t_r		$T_C=25$		25	ns
			$T_C=175$		27	
Turn-Off Delay Time	$t_{d(off)}$		$T_C=25$		187	ns
			$T_C=175$		202	
Turn-Off Fall Time	t_f		$T_C=25$		15	ns
			$T_C=175$		18	
Turn-On Energy	E_{on}		$T_C=25$		0.95	mJ
			$T_C=175$		1.45	
Turn-Off Energy	E_{off}	$T_C=25$		0.65	mJ	
		$T_C=175$		1.20		
Total Switching Energy	E_{ts}	$T_C=25$		1.60	mJ	
		$T_C=175$		2.65		
Input Capacitance	C_{ies}	$V_{GE}=0V,$ $f=1MHz$	$V_{CE}=25V$		5660	pF
Output Capacitance	C_{oes}				260	pF
Reverse Transfer Capacitance	C_{res}				154	pF

Diode Forward Voltage V_{DF} 1MHz $V_{Tw}(ts)$ T_j 10.4958 0 0 10.98 r01.6803 $T_m()$ T_j 9.226F.8664 1.0629 $TD(T)$ T_j 7.08 304(d V) 54. mJ

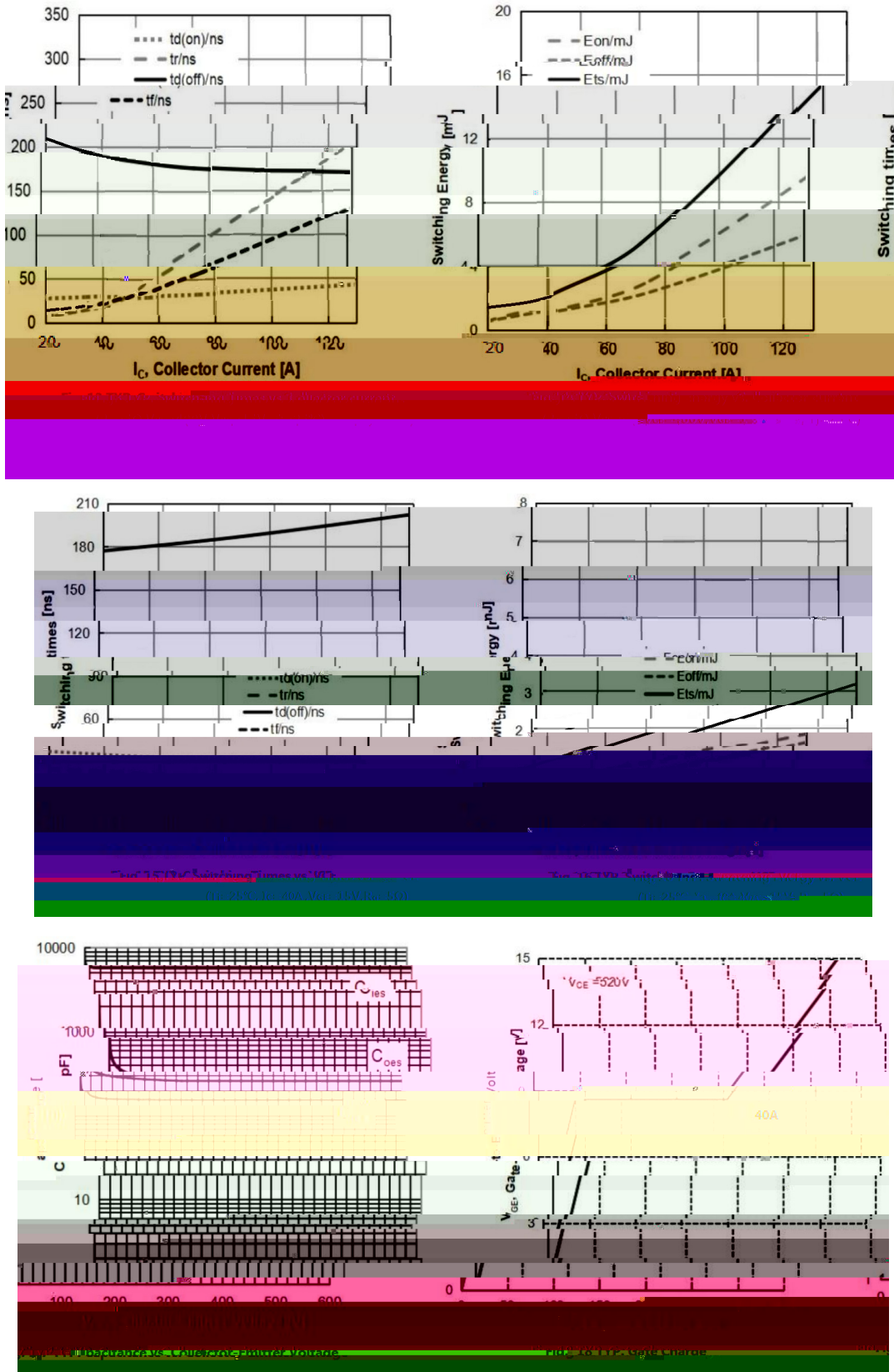
/ Electrical Characteristic Curve



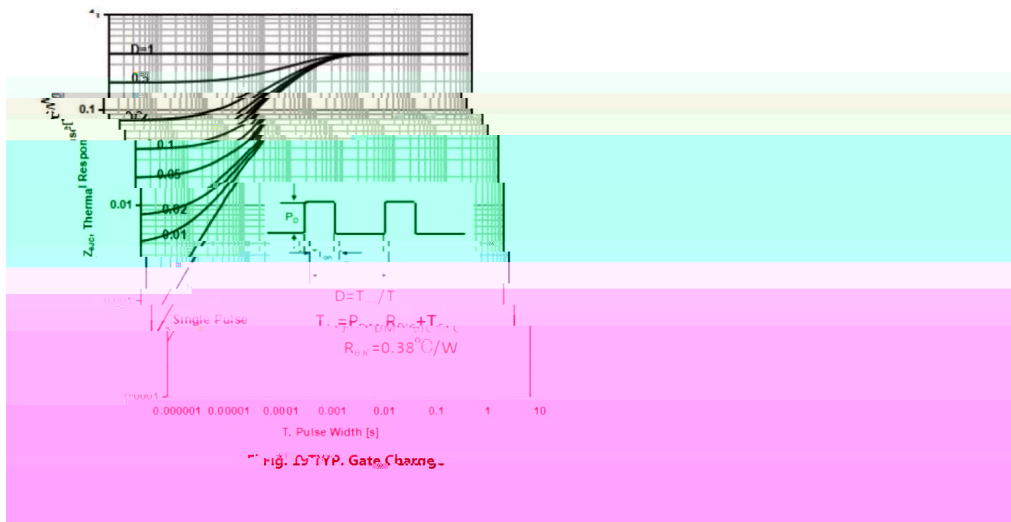
/ Electrical Characteristic Curve



/ Electrical Characteristic Curve



/ **Electrical Characteristic Curve**



/ Marking Instructions



BR

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Note:

BR: Company Code

GB40N65AHA: Product Type Code

****: Lot No. Code, code change with Lot No.

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