/ Descriptions

TO-247

Insulated-Gate Bipolar Transistor in a TO-247 Plastic Package.

/ Features

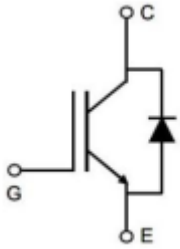
650V 100A

$V_{CE(SAT)}$= 1.60V(typ.) @V_{GE}=15V,I_C= 100A

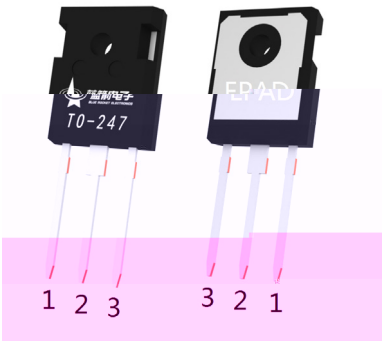
/ Applications

Solar Converters, Uninterrupted Power Supply, Welding Converters, Mid to High Range Switching Frequency Converters.

/ Equivalent Circuit



/ Pinning



PIN1 G PIN 2 EPAD C PIN 3 E

/ Marking

See Marking Instructions.

Parameter		Symbol	Rating	Unit
Collector-Emitter Voltage		V_{CES}	650	V
Gate-Emitter Voltage		V_{GES}	± 30	V
Continuous Collector Current	T_C=25	I_C	200	A
	T_C=100		100	A
Pulsed Collector Current , Limited by T_{Jmax}		I_{CM}	400	A
Continuous Diode Forward Current	T_C=25	I_F	150	A
	T_C=100		75	A
Power Dissipation	T_C=25	P_D	536	W
Operating Junction Temperature Range		T_J	-40 to +175	
Storage Temperature Range		T_{STG}	-55 to +175	
Maximum Temperature for Soldering		T_L	260	
Maximum Junction-to-Ambient		$R_{\theta JA}$	40	/W
Maximum IGBT Junction-to-Case		$R_{\theta JC}$	0.26	/W
Maximum Diode Junction-to-Case		$R_{\theta JC}$	1.26	/W

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage	BV_{CES}	I_C=1.0mA, V_{GE}=0V		650			V
Zero Gate Voltage Collector current	I_{CES}	V_{CE}=650V, V_{GE}=0V				10	uA
Gate-Emitter Leakage Current	I_{GES}	V_{CE}=0V, V_{GE}= ±20V				±200	nA
Gate-Emitter Threshold Voltage	$V_{GE(th)}$	V_{CE}=V_{GE}, I_C=1.0mA		4.3	5.3	6.3	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V_{GE}=15V, I_C=100A	T_J=25		1.60	1.95	V
			T_J=125		1.87		
			T_J=175		2.04		
Total Gate Charge	Q_g	V_{GE}=15V, I_C=100A	V_{CC}=520V		405		
GATE Charge					40.5		

/ Electrical Characteristic Curve

TYP. Power Dissipation



TYP. Collector Current vs. Case Temperature

TYP. Safe Operation Area



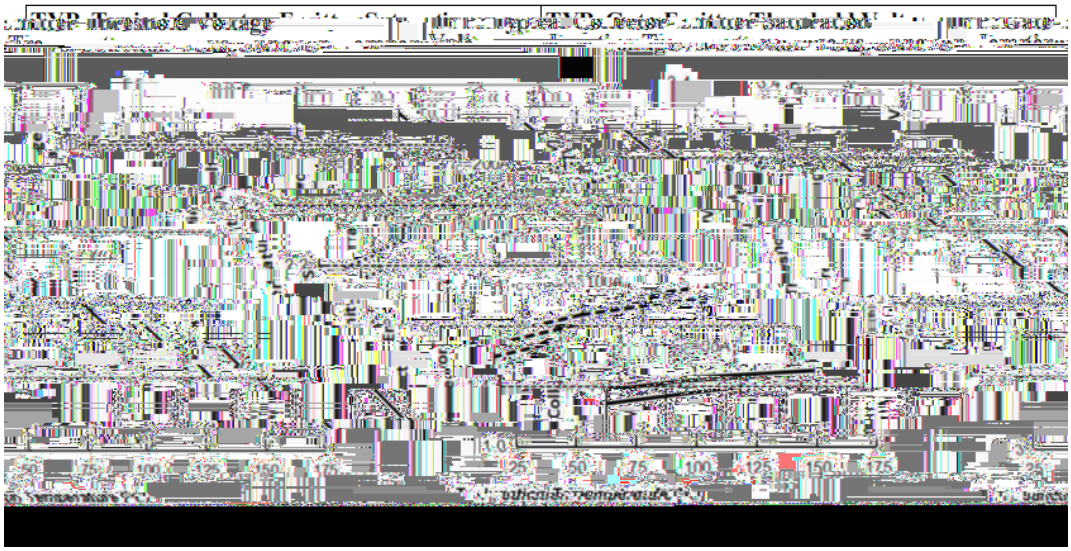
TYP. Transfer Characteristics

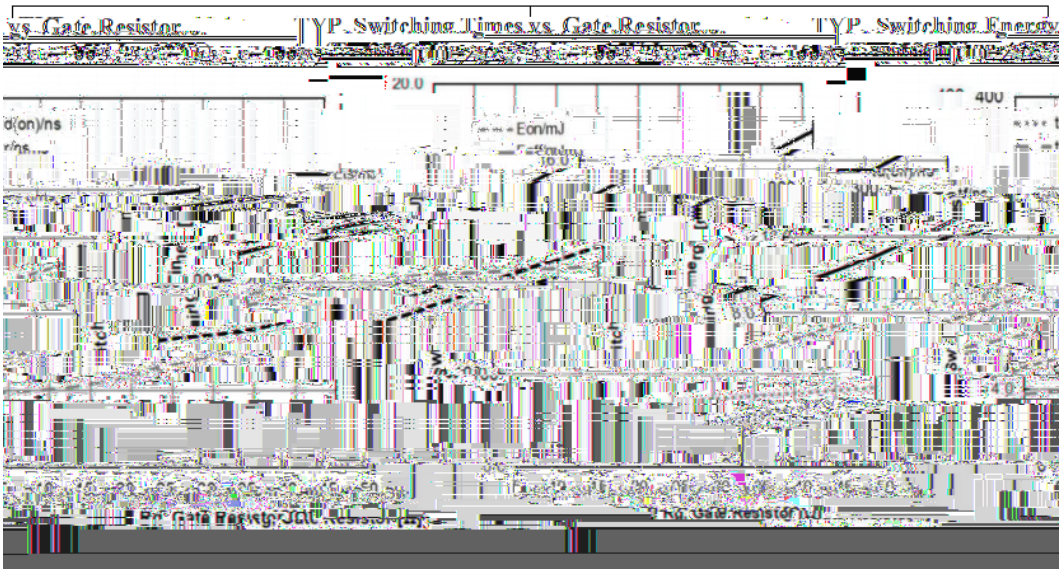
TYP. Output Characteristics

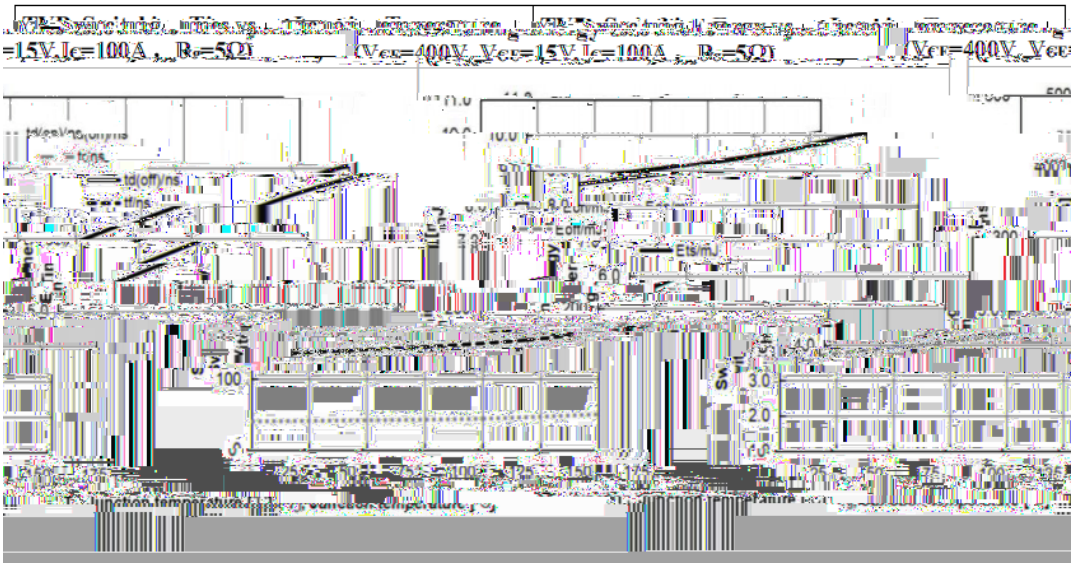


TYP. Output Characteristics

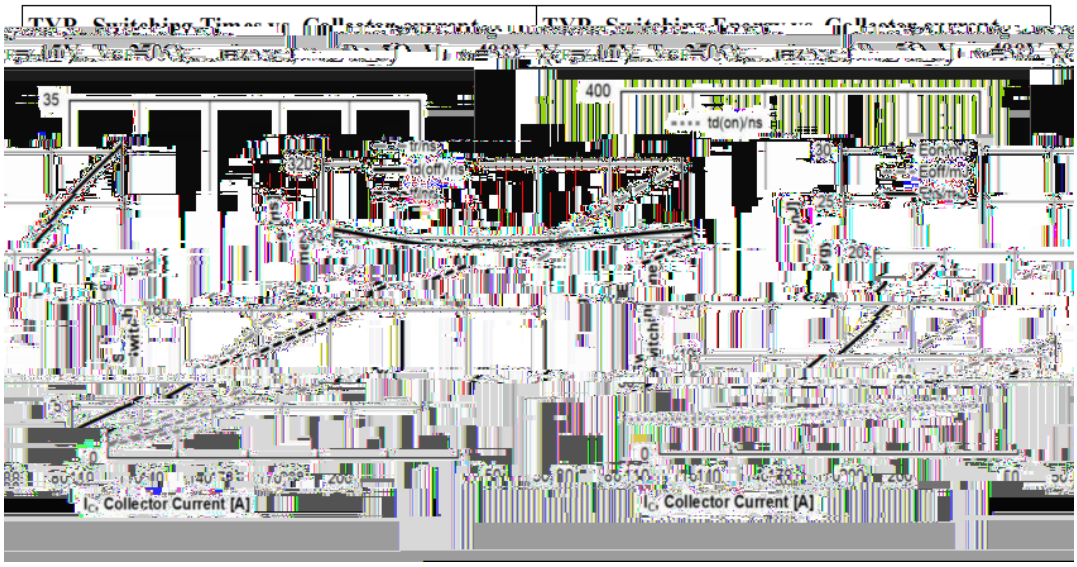
/ Electrical Characteristic Curve

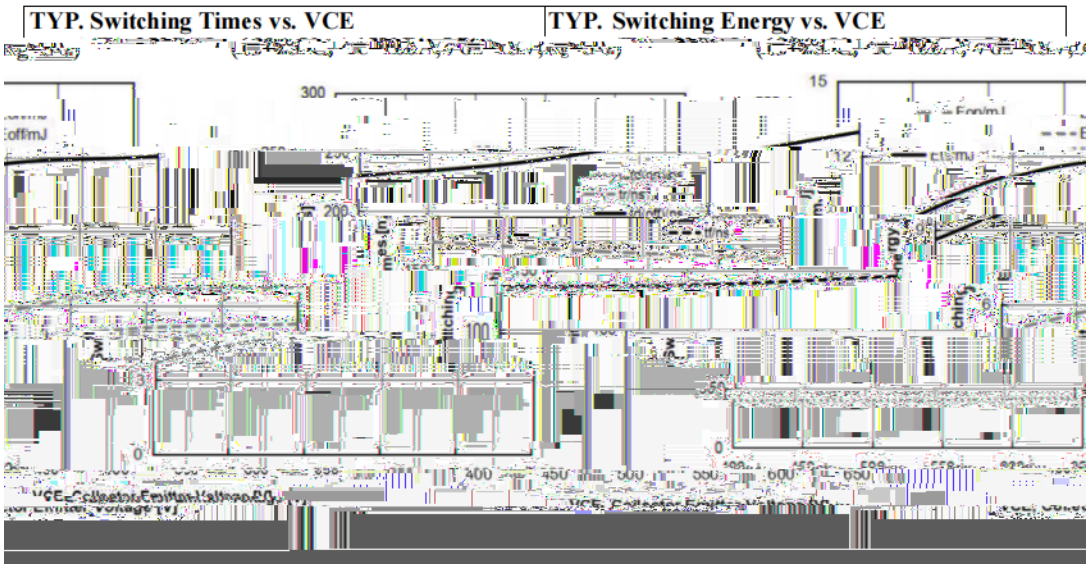


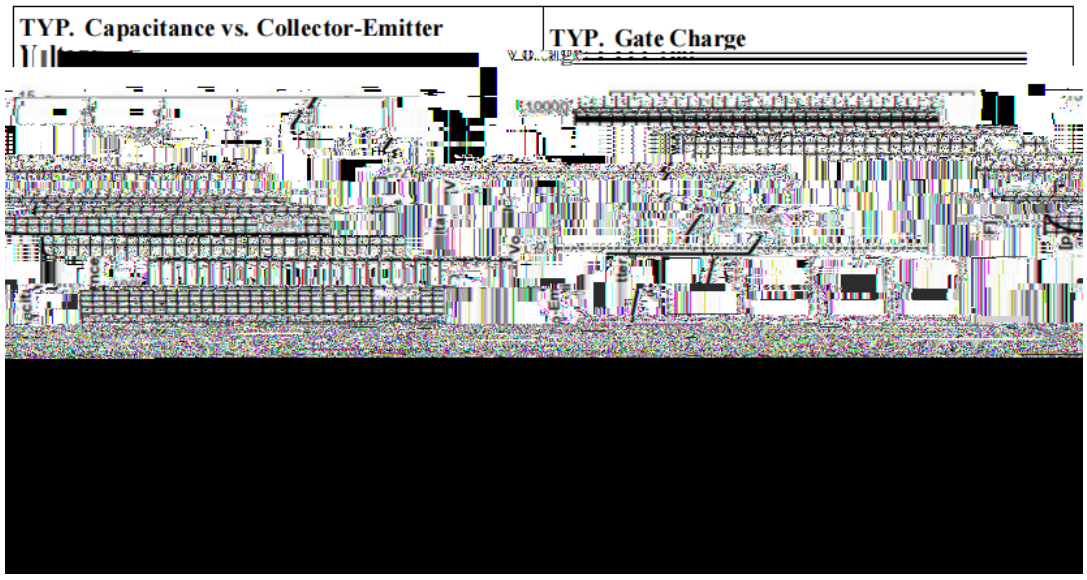




/ Electrical Characteristic Curve





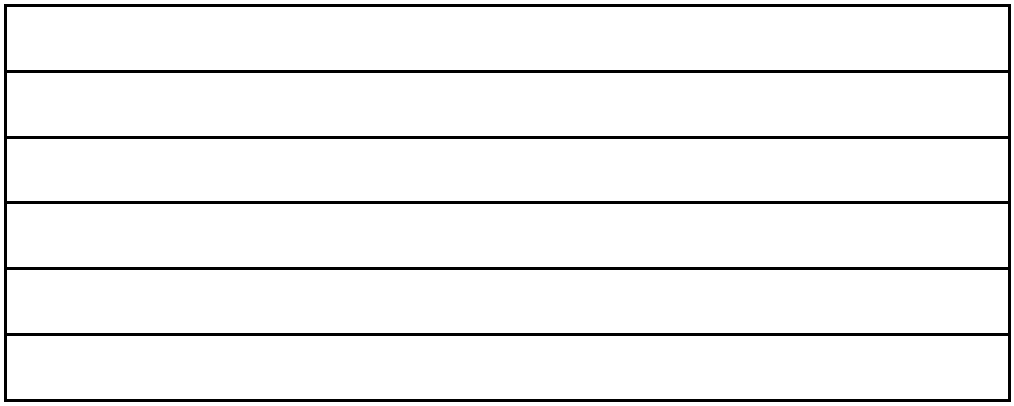


BRPGB100N65AHA

Rev.A Mar.-2026

DATA SHEET

( ) / Temperature Profile for Dip Soldering(Pb-Free)



				Note:	
1	25	150	60	90sec;	1.Preheating:25~150 , Time:60~90sec.
2	255±5			5±0.5sec;	2.Peak Temp.:255±5 , Duration:5±0.5sec.
3		2	10	/sec.	3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

270±5	10±1 sec.	Temp.:270±5	Time:10±1 sec

/ Packaging SPEC.

/ TUBE

Package Type	Units					Dimension		(unit mm³)
								× ×