

5 é / Descriptions

TO-247 .> // x Í Ů õ E â ³ } 'ož

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

□ ª / Features

650V k 75A

 $V_{CE(SAT)} = 1.90V(\text{typ.}) @ V_{GE} = 15V, I_C = 75A$

Đ ÷ / Applications

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

Ã W] Ô • / Equivalent Circuit

• Ů - æ / Pinning

PIN1 y G

PIN 2 o • EPAD y C

PIN 3 y E

, M V / Marking

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See Marking Instructions.

@ f Parameter		... Z Symbol	f > Rating	% y Unit
Collector-Emitter Voltage		V _{CES}	650	V
Gate-Emitter Voltage		V _{GES}	f 30	V
Continuous Collector Current	T _C =25	I _C	150	A
	T _C =100		75	A
Pulsed Collector Current , Limited by T _{Jmax}		I _{CM}	300	A
Continuous Diode Forward Current	T _C =25	I _F	160	A
	T _C =100		80	A
Power Dissipation	T _C =25	P _D	750	W
	T _C =100		375	W
Operating Junction Temperature Range		T _J	-40 to +175	
Storage Temperature Range		T _{STG}	-55 to +150	
Maximum Junction-to-Ambient		R _{JA}	80	/W
Maximum IGBT Junction-to-Case		R _{JC}	0.24	/W
Maximum Diode Junction-to-Case		R _{JC}	0.48	/W

@ f Parameter	... Z Symbol	y i Ú ^ Test Conditions	Â 4 > Min	Á ° > Typ	Â Ý > Max	% y Unit
Collector-Emitter Breakdown Voltage	BV _{CES}	I _C =250uA, V _{GE} =0V	650			V
Zero Gate Voltage Collector current	I _{CES}	V _{CE} =650V, V _{GE} =0V			250	uA
Gate-Emitter Leakage Current	I _{GES}	V _{CE} =0V, V _{GE} = ±30V			f 100	nA
Gate-Emitter Threshold Voltage	V _{GE(th)}	V _{CE} =V _{GE} , I _C =250 A	4.0	5.0	5.5	V
Collector-Emitter Saturation Voltage	V _{CE(sat)}	V _{GE} =15V, I _C =75A	T _J =25	1.90	2.20	V
			T _J =125	2.00		

Total Gate Charge

Q_g ! @p",6\$#`A€ ,ïï R'RB,, PÀ Z!"V4~ ' r p#HB0&`2 ì IQ •€ SQ\$Cy`7!€ %

@ f Parameter	... Z Symbol	y i U ^ Test Conditions	Â 4 › Min	Á ° › Typ	Â Ý › Max	% y Unit		
Turn-On Delay Time	t _{d(on)}	V _{GE} =15V, V _{CC} =400V I _C =75A, R _G =10 Inductive Load	TC=25		38		ns	
			Tc=150		36		ns	
Turn-On Rise Time	t _r		TC=25		118		ns	
			Tc=150		100		ns	
Turn-Off Delay Time	t _{d(off)}		TC=25		267		ns	
			Tc=150		300		ns	
Turn-Off Fall Time	t _f		TC=25		81		ns	
			Tc=150		85		ns	
Turn-On Energy	E _{on}		TC=25		4.65		mJ	
			Tc=150		4.50		mJ	
Turn-Off Energy	E _{off}		TC=25		2.45		mJ	
			Tc=150		2.70		mJ	
Total Switching Energy	E _{ts}		TC=25		7.10		mJ	
			Tc=150		7.20		mJ	
Input Capacitance	C _{ies}	V _{GE} =0V, V _{CE} =25V f=1MHz	2850				pF	

Ô ? d • Ž ¢ / Electrical Characteristic Curve

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Ø □ =) ¢ / Package Dimensions

, M y f / Marking Instructions

BR
GB75P65AHA

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BR y , [W A

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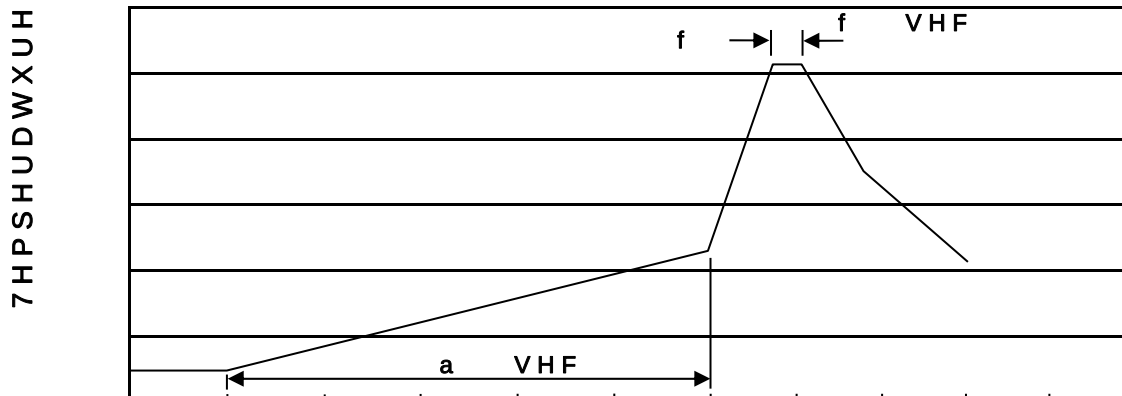
Note:

BR: Company Code

GB75P65AHA: Product Type Code

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

G PD t ... • Ž Ć (x /) / Temperature Profile for Dip Soldering(Pb-Free)



7LPH VHF

a Ć y

1o• Ä ½ "† 25 ½150 - k ž • 60 ½90sec;

2o• Q > "† 255 r5 - k ž • 4 Ò 5 r0.5sec;

3o•D N ò i Ò 0 ,† 2 ½10 - /sec.

Note:

1.Preheating:25~150 - , Time:60~90sec.

2.Peak Temp.:255 r5 - , Duration:5 r0.5sec.

3. Cooling Speed: 2~10 - /sec.

ÂD /Că p - »] / Resistance to Soldering Heat Test Conditions

"† y 270 r5 -

ž • y 10 r1 sec.

Temp.:270±5

Time:10±1 sec

G P á / Packaging SPEC.

ì' x / TUBE

Package Type 7>û ~ E	Units ;>û !H					Dimension ;>û p . (unit 4mm³)		
	Units/Tube /•1×	Tubes/Inner Box •1× /-	Units/Inner Box /-	Inner Boxes/Outer Box - /1ç	Units/Outer Box /1ç	Tube•1×	Inner Box	Outer Boxç
TO-247	30	15	450	5	2250	520×44×6	580×158×55	595×300×178

„Đ y f / Notices

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