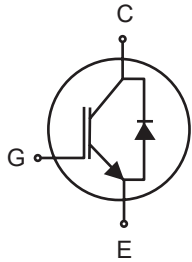
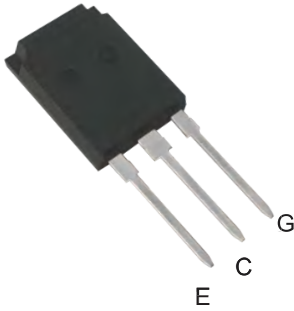


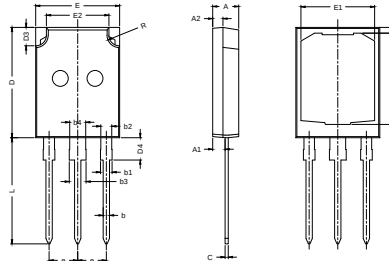
SG120T65UDB5

Discrete IGBTs



G = Gate
C = Collector
E = Emitter
TAB = Collector

Dimensions TO-247P



Dim.	Millimeter		Dim.	Millimeter	
	Min.	Max.		Min.	Max.
A	4.85	5.10	D2	0.96	1.25
A1	2.31	2.51	D3	3.35	3.80
A2	1.85	2.10	D4	3.95	4.45
b	1.16	1.26	E	15.80	16.05
b1	/	2.25	E1	13.50	14.40
b2	1.96	2.15	E2	11.25	12.45
b3	/	3.25			
b4	2.96	3.15	e	5.44(BSC)	
c	0.59	0.66	L	19.80	20.25
D	20.85	21.10			
D1	17.15	17.75	R	1.90	2.10



Symbol	Test Conditions	Value	Unit
V_{CES}	$T_J=25^{\circ}\text{C}$ to 150°C	650	V
V_{GES}		± 20	V
I_C	$T_C=25^{\circ}\text{C}$; limited by leads	240	A
	$T_C=100^{\circ}\text{C}$	120	
RBSOA	$V_{GE}=15\text{V}$; $T_{VJ}=125^{\circ}\text{C}$; $R_G=5\Omega$, $V_{CE}=480\text{V}$	300	A
P_D	$T_C=25^{\circ}\text{C}$	500	W
T_J		-55 ~ +175	$^{\circ}\text{C}$
T_{JM}		175	
T_{STG}		-55 ~ +150	
	Maximum Lead temperature for soldering 1.6mm (0.062 in.) from case for 10s Maximum Tabk temperature for soldering SMD devices for 10s	300	$^{\circ}\text{C}$
		260	$^{\circ}\text{C}$
M_d	Mounting Torque (M3)	1.13/10	Nm/ lb.in
Weight		6	g

SG120T65UDB5

Discrete IGBTs

Symbol	Test Conditions		Min	Typ.	Max	Unit
IGBT(T _J =25°C, unless otherwise speci ied)						
B _V CES	I _C = 1mA; V _{GE} = 0V		650			V
V _{GETH}	I _C = 250μA; V _{CE} = V _{GE}		4.4	5.2	6.0	V
I _{CES}	V _{CE} =650V; V _{GE} =0V	T _J =25°C			250	μA
		T _J =125°C			4	mA
I _{GES}	V _{CE} =0V; V _{GE} =±20V				±200	nA
V _{CE} (SAT)	I _C =120A; V _{GE} =15V			1.90	2.40	V
C _{ies}	V _{CE} =25V; V _{GE} =0V; f=1MHz			5500		pF
C _{oes}				335		
C _{res}				55		
Q _g	I _C =120A; V _{GE} =15V; V _{CE} =520V			150		nC
Q _{ge}				30		
Q _{gc}				147		
t _d (on)	Inductive Load I _C =120A;V _{GE} =15V; V _{CE} =400V; R _G (ON)=R _G (OFF)=20Ω;			100		ns
t _r				180		ns
t _d (off)				260		ns
t _f				90		ns
E _{on}				7.1		mJ
E _{off}				7.8		mJ
R _{th} JC					0.25	K/W
R _{th} JA					40	K/W
Reverse Diode (FRED)						
V _F	I _F =120A; T _{VJ} =25°C			2.8	3.0	V
I _{RM}	V _R =400V; I _F =120A; -di _F /dt = 100A/μs L ≤ 0.05μH; T _{VJ} =100°C			6		A
t _{rr}	I _F =1A; -di/dt=50A/μs; V _R =30V; T _J =25°C			75		ns
R _{th} JC					0.40	K/W

Features:

- Low Switching Losses
- Short circuit withstand time 5us
- Positive Temperature Coefficient for easy paralleling
- MOS input, Voltage Controlled
- Ultrafast Free Wheeling Diodes

Application:

- UPS
- Welding Machines
- PFC applications

Advantages:

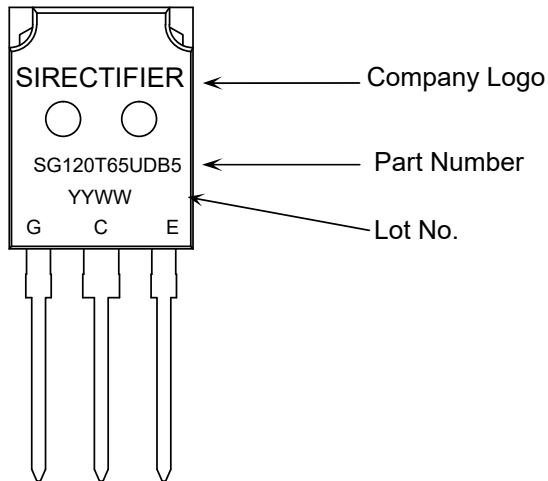
- Space and weight savings
- Reduced protection circuits

SG120T65UDB5

Discrete IGBTs

Marking

SG120T65UDB5
(TO-247P)



Ordering Information

Part Number	Package	Shipping	Marking Code
SG120T65UDB5	TO-247P	30pcs / Tube	SG120T65UDB5