

SWITCHING REGULATOR APPLICATIONS

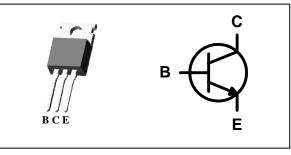
Features

- High speed switching
- High Collector Voltage : $V_{CBO} = 700V$
- Suitable for Switching Regulator and Motor Control

Ordering Information

Type NO.	Marking	Package Code
STD13007	STD13007	TO-220AB

PIN Connection



Absolute maximum ratings

Absolute maximum ratings	(Ta=25°C)		
Characteristic	Symbol	Rating	Unit
Collector-Base voltage	V _{CBO}	700	V
Collector-Emitter voltage	V _{CEO}	400	V
Emitter-base voltage	V_{EBO}	9	V
Collector current (DC)	Ι _C	8	А
Collector current (Pulse)	I _{CM}	16	А
Base current (DC)	I _B	4	А
Collector Power dissipation (Tc=25 $^{\circ}$ C)	P _C	80	W
Junction temperature	Tj	150	°C
Storage temperature	T _{stg}	-55~150	°C

Char	acteristic	Symbol	Тур.	Max	Unit
Thermal	Junction-case	R _{th(J-C)}	-	1.56	°C/W
resistance	Junction-ambient	R _{th(J-a)}	-	83.3	07 VV

Electrical Characteristics

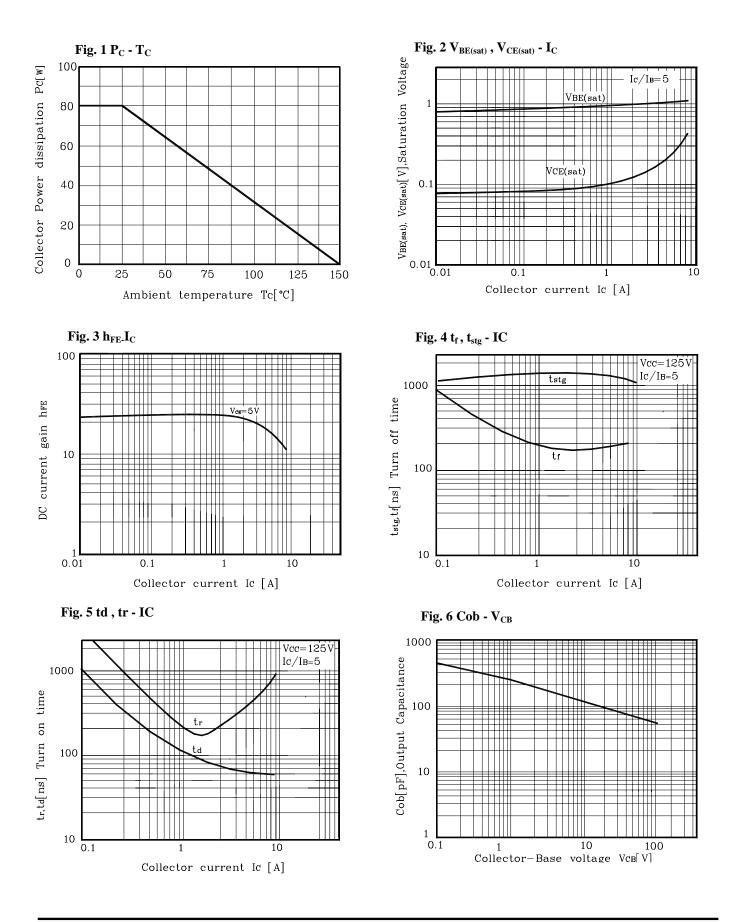
(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Тур.	Max.	Unit
Collector-Emitter sustaining voltage	BV _{CEO(sus)}	$I_{c} = 10 \text{mA}, I_{B} = 0$	400	-	-	V
Emitter cut-off current	I _{EBO}	$V_{EB} = 9V, I_{C} = 0$	-	-	1	mA
DC Current gain	h _{FE} *	$I_{C}=2A, V_{CE}=5V^{*}$	10	-	45	
		$I_{C}=5A$, $V_{CE}=5V$	5	-	30	
	V _{CE(sat)} *	$I_{C}=2A, I_{B}=0.4A$	-	-	1	
Collector-Emitter saturation voltage		$I_{C}=5A$, $I_{B}=1A$	-	-	2	V
		$I_{C}=8A$, $I_{B}=2A$	-	-	3	
Base-Emitter saturation voltage	V _{BE(sat)} *	$I_{C}=2A, I_{B}=0.4A$	-	-	1.2	v
		$I_{C}=5A$, $I_{B}=1A$	-	-	1.6	
Transition frequency	f_{T}	V_{CE} =10V, I_{C} =0.5A, f=1MHz	-	14	-	MHz
Output capacitance	C _{ob}	V_{CB} =10V, I_{E} =0, f=0.1MHz	-	80	-	pF
Turn on Time	t _{on}		-	1.6	-	
Storage Time	t_{stg} V _{CC} =125V, I _C =5A I _{B1} =-I _{B2} =1A		-	3	-	μs
Fall Time	t _f		-	0.7	-	

* Pulse test: PW \leq 300 μs , Duty cycle \leq 2%.

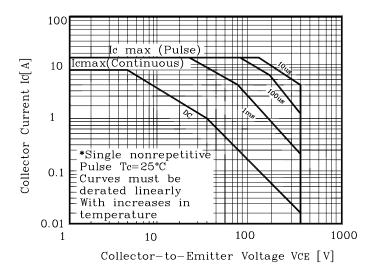
 ${}^{*}h_{FE}$ rank / A : 10~30, B : 25~45

Electrical Characteristic Curves

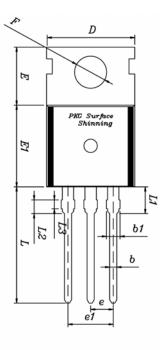


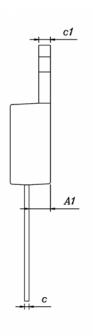
Electrical Characteristic Curves

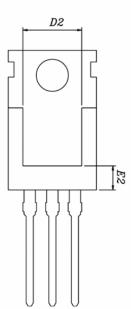
Fig. 7 Safe Operating Area

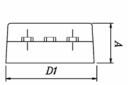


Outline Dimension









		MILLIMETE	-BS		
SYMBOL		MNOMINALMAXIMUM		NOTE	
A	4.35	4.50	4.65		
A1	2.20	2.40	2.60		
b	0.65	0.80	0.95		
b1	1.42	1.52	1.62		
С	0.40	0.50	0.60		
C1	1.20	1.30	1.40		
D	9.80	10.00	10.20		
D1	9.85	10.00	10.15		
D2	6.40	6.60	6.80		
E	6.30	6.50	6.70		
E1	9.05	9.20	9.35		
E2	2.50	2.70	2.90		
F	3.50	3.60	3.70		
е	2.34	2.54	2.64		
e1	4.88	5.08	5.28		
L	12.68	13.08	13.48		
L1	2.80	3.00	3.20		
L2	1.49	1.54	1.59		
L3	0.95	1.00	1.05		

The AUK Corp. products are intended for the use as components in general electronic equipment (Office and communication equipment, measuring equipment, home appliance, etc.).

Please make sure that you consult with us before you use these AUK Corp. products in equipments which require high quality and / or reliability, and in equipments which could have major impact to the welfare of human life(atomic energy control, airplane, spaceship, transportation, combustion control, all types of safety device, etc.). AUK Corp. cannot accept liability to any damage which may occur in case these AUK Corp. products were used in the mentioned equipments without prior consultation with AUK Corp..

Specifications mentioned in this publication are subject to change without notice.