

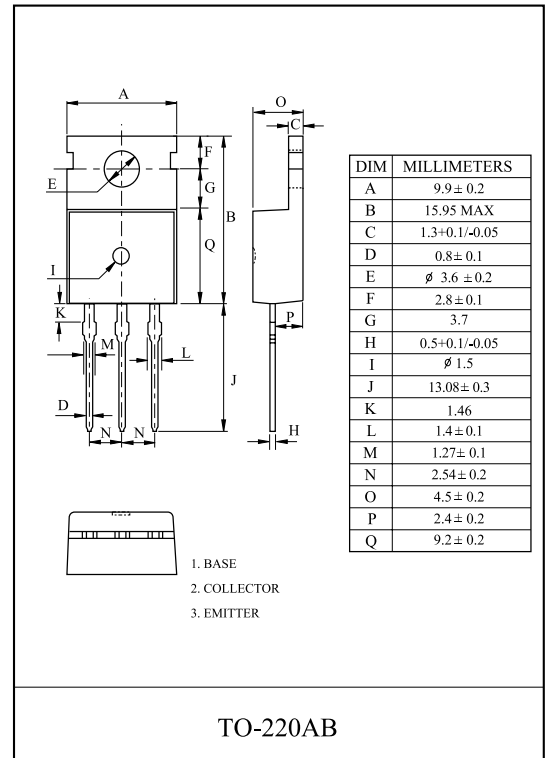
SWITCHING REGULATOR APPLICATION.  
HIGH VOLTAGE SWITCHING APPLICATION.  
HIGH SPEED DC-DC CONVERTER APPLICATION.

### FEATURES

- Excellent Switching Times  
:  $t_{on}=1.1\mu S(\text{Max.})$ ,  $t_f=0.7\mu S(\text{Max.})$ , at  $I_C=8A$
- High Collector Voltage :  $V_{CBO}=700V$ .

### MAXIMUM RATING (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	$I_C$	12	A
	Pulse	$I_{CP}$	24	
Base Current		$I_B$	6	A
Collector Power Dissipation (Tc=25 °C)		$P_C$	100	W
Junction Temperature		$T_j$	150	°C
Storage Temperature Range		$T_{stg}$	-55 ~ 150	°C



### ELECTRICAL CHARACTERISTICS (Ta=25 °C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=9V$ , $I_C=0$	-	-	1	mA
DC Current Gain	$h_{FE}(1)$ (Note)	$V_{CE}=5V$ , $I_C=5A$	14	-	28	
	$h_{FE}(2)$	$V_{CE}=5V$ , $I_C=8A$	6	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=5A$ , $I_B=1A$	-	-	1	V
		$I_C=8A$ , $I_B=1.6A$	-	-	1.5	
		$I_C=12A$ , $I_B=3A$	-	-	3	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=5A$ , $I_B=1A$	-	-	1.5	V
		$I_C=8A$ , $I_B=1.6A$	-	-	1.6	
Collector Output Capacitance	$C_{ob}$	$V_{CB}=10V$ , $f=0.1MHz$ , $I_E=0$	-	180	-	pF
Transition Frequency	$f_T$	$V_{CE}=10V$ , $I_C=0.5A$	4	-	-	MHz
Turn-On Time	$t_{on}$	<p><math>I_{B1}=I_{B2}=1.6A</math> DUTY CYCLE ≤ 2%</p>	-	-	1.1	µS
Storage Time	$t_{stg}$		-	-	3	µS
Fall Time	$t_f$		-	-	0.7	µS

Note :  $h_{FE}$  Classification O:14 ~ 28

Fig.1 DC current Gain

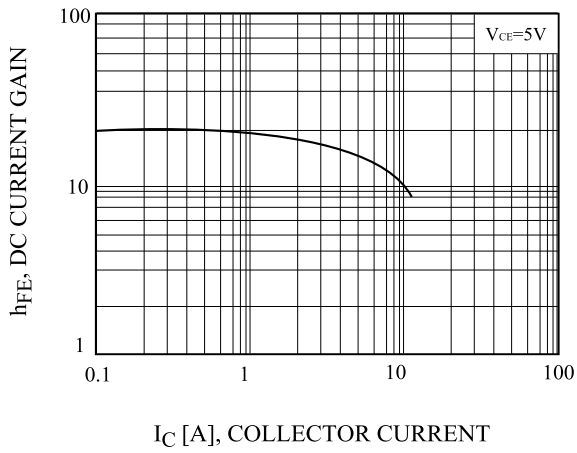


Fig.2 Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

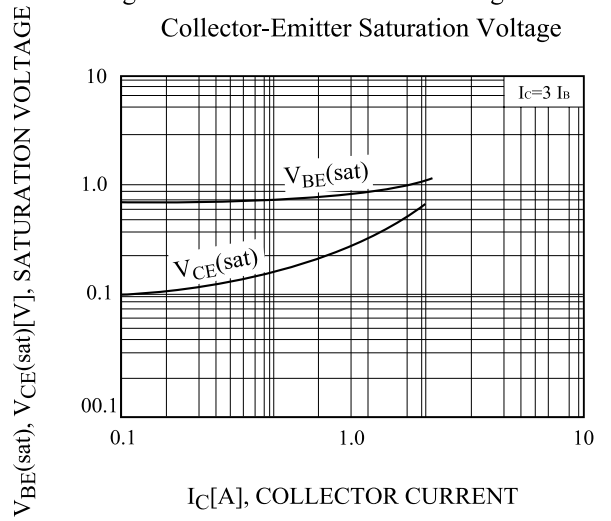


Fig.3. Collector Output Capacitance

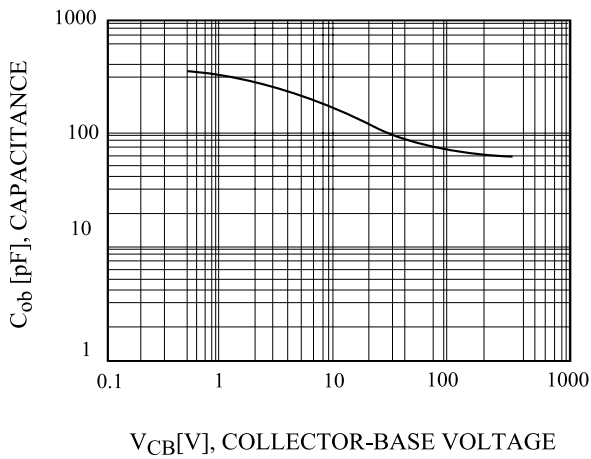


Fig.4 Turn Off Time

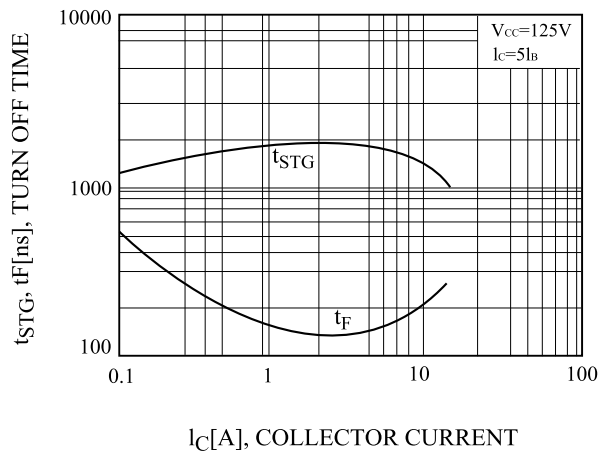


Fig.5 Forward Bias Safe Operating Area

