

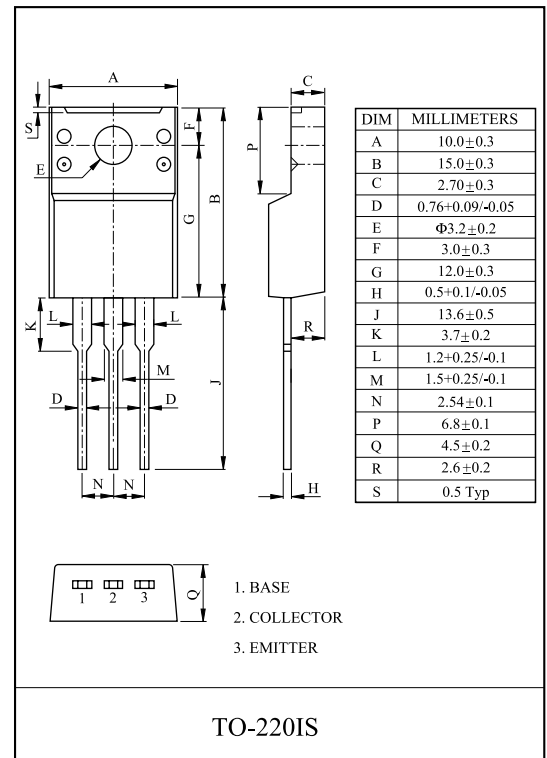
SWITCHING REGULATOR APPLICATION.  
HIGH VOLTAGE SWITCHING APPLICATION.  
HIGH SPEED DC-DC CONVERTER APPLICATION.

### FEATURES

- Excellent Switching Times  
:  $t_{on}=1.6 \mu\text{s}(\text{Max.})$ ,  $t_f=0.7 \mu\text{s}(\text{Max.})$ , at  $I_C=5\text{A}$
- High Collector Voltage :  $V_{CBO}=700\text{V}$ .

### MAXIMUM RATING (Ta=25 )

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	$I_C$	8	A
	Pulse	$I_{CP}$	16	
Base Current		$I_B$	4	A
Collector Power Dissipation (Tc=25 )		$P_C$	40	W
Junction Temperature		$T_j$	150	
Storage Temperature Range		$T_{stg}$	-55 150	



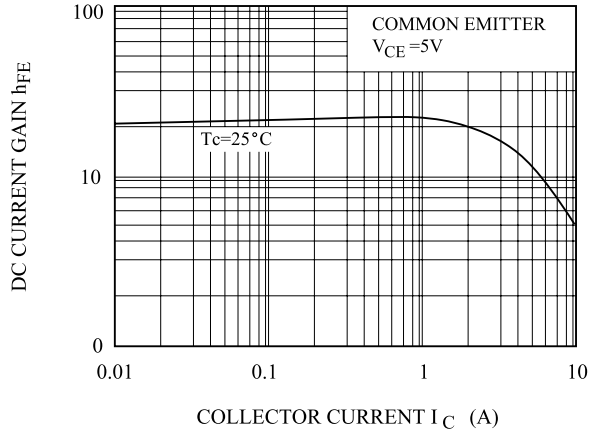
### ELECTRICAL CHARACTERISTICS (Ta=25 )

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=9\text{V}$ , $I_C=0$	-	-	1	mA
DC Current Gain	$h_{FE}(1)$ (Note)	$V_{CE}=5\text{V}$ , $I_C=2\text{A}$	15	-	39	
	$h_{FE}(2)$	$V_{CE}=5\text{V}$ , $I_C=5\text{A}$	10	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=2\text{A}$ , $I_B=0.4\text{A}$	-	-	1	V
		$I_C=5\text{A}$ , $I_B=1\text{A}$	-	-	2	
		$I_C=8\text{A}$ , $I_B=2\text{A}$	-	-	3	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=2\text{A}$ , $I_B=0.4\text{A}$	-	-	1.5	V
		$I_C=5\text{A}$ , $I_B=1\text{A}$	-	-	1.6	
Collector Output Capacitance	$C_{ob}$	$V_{CB}=10\text{V}$ , $f=0.1\text{MHz}$ , $I_E=0$	-	110	-	pF
Transition Frequency	$f_T$	$V_{CE}=10\text{V}$ , $I_C=0.5\text{A}$	4	-	-	MHz
Turn-On Time	$t_{on}$	<p><math>I_{B1}=I_{B2}=1\text{A}</math> DUTY CYCLE <math>\leq 2\%</math></p>	-	-	1.6	$\mu\text{s}$
Storage Time	$t_{stg}$		-	-	3	$\mu\text{s}$
Fall Time	$t_f$		-	-	0.7	$\mu\text{s}$

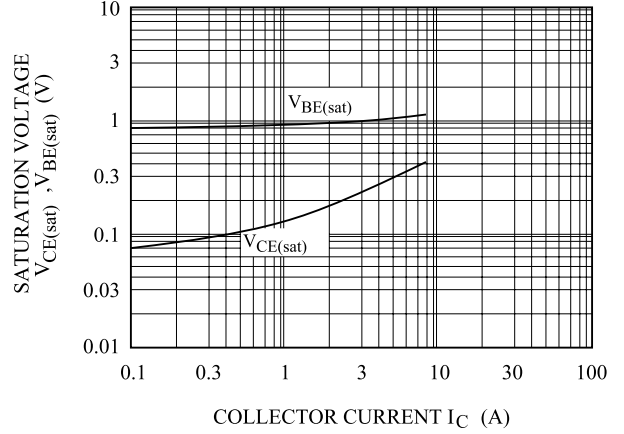
Note :  $h_{FE}$  Classification R:15 27, O:23 39

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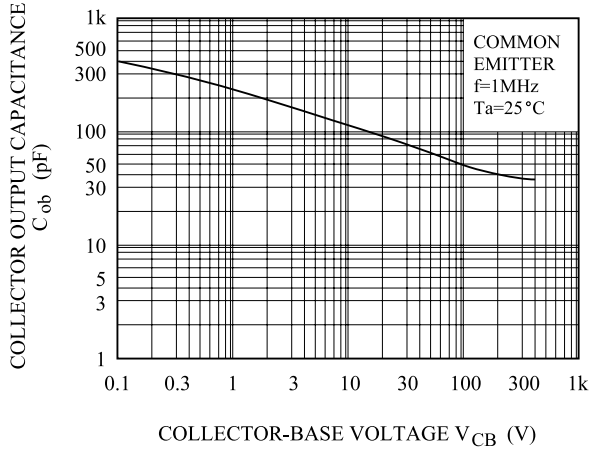
$h_{FE} - I_C$



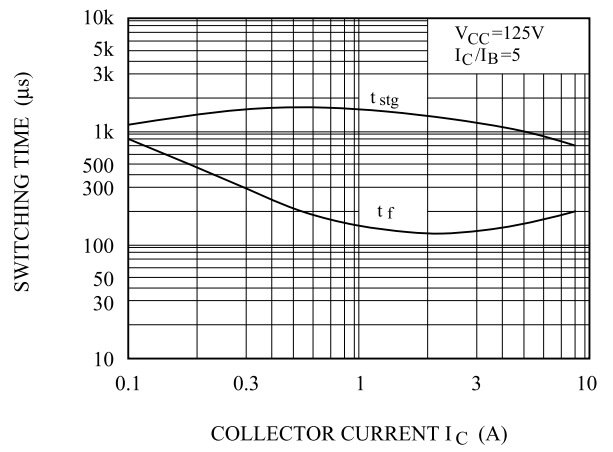
$V_{CE(sat)}, V_{BE(sat)} - I_C$



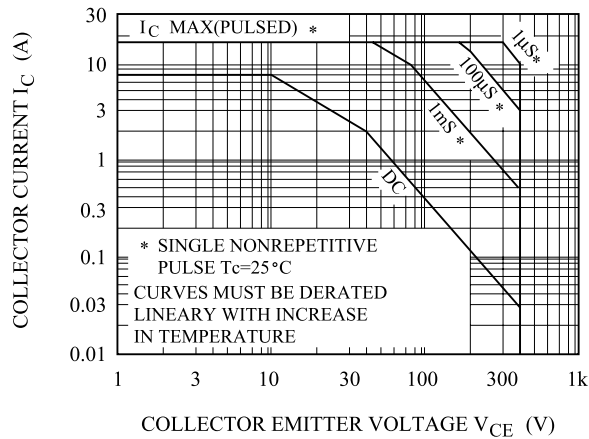
$C_{ob} - V_{CB}$



SWITCHING CHARACTERISTIC



SAFE OPERATING AREA



$P_C - T_a$

