

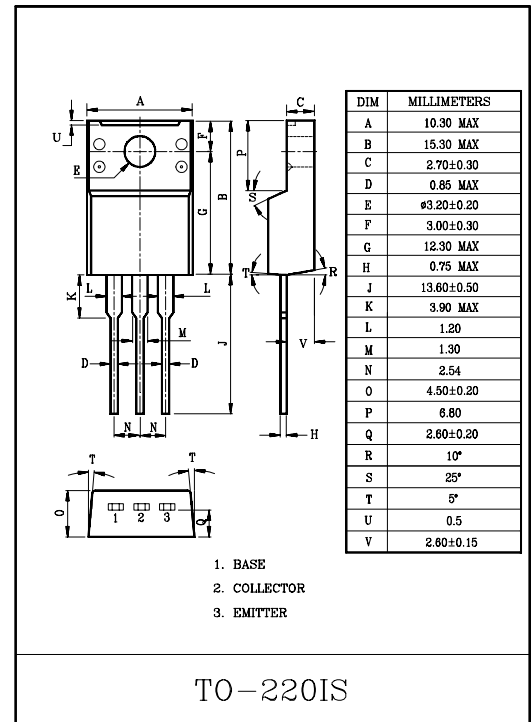
SWITCHING APPLICATION.  
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION.

### FEATURES

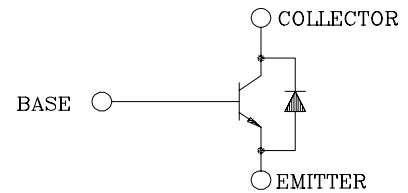
- High  $h_{FE}$  :  $h_{FE}=500\sim 1500$  ( $I_C=0.5A$ ).
- Low Collector Saturation :  $V_{CE(sat)}=0.35V(\text{Max.})$  ( $I_C=1A$ ).

### MAXIMUM RATINGS ( $T_a=25^\circ C$ )

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		$V_{CBO}$	100	V
Collector-Emitter Voltage		$V_{CEO}$	80	V
Emitter-Base Voltage		$V_{EBO}$	7	V
Collector Current	DC	$I_C$	3	A
	Pulse	$I_{CP}$	5	
Base Current		$I_B$	1	A
Collector Power Dissipation	$T_a=25^\circ C$	$P_C$	2	W
	$T_c=25^\circ C$		25	
Junction Temperature		$T_j$	150	$^\circ C$
Storage Temperature Range		$T_{stg}$	-55~150	$^\circ C$



### EQUIVALENT CIRCUIT



### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ C$ )

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		$I_{CBO}$	$V_{CB}=80V, I_E=0$	-	-	10	$\mu A$
Emitter Cut-off Current		$I_{EBO}$	$V_{EB}=7V, I_C=0$	-	-	10	$\mu A$
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C=50mA, I_B=0$	80	-	-	V
DC Current Gain		$h_{FE}(1)$	$V_{CE}=1V, I_C=0.5A$	500	-	1500	
		$h_{FE}(2)$	$V_{CE}=1V, I_C=1A$	150	-	-	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C=1A, I_B=0.01A$	-	-	0.35	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C=1A, I_B=0.01A$	-	-	1.2	V
Collector Emitter Forward Voltage		$V_{ECF}$	$I_E=3A, I_B=0$	-	-	2.5	V
Transition Frequency		$f_T$	$V_{CE}=5V, I_C=1A$	-	140	-	MHz
Collector Output Capacitance		$C_{ob}$	$V_{CE}=10V, I_E=0, f=1MHz$	-	30	-	pF
Switching Time	Turn-on Time	$t_{on}$	<p><math>I_{B1} = -I_{B2} = 10mA</math> DUTY CYCLE &lt; 1%</p>	-	0.5	-	$\mu S$
	Storage Time	$T_{stg}$		-	5.0	-	
	Fall Time	$t_f$		-	0.7	-	

