

# 2SD640

SILICON NPN TRIPLE DIFFUSED TYPE

HIGH VOLTAGE SWITCHING APPLICATIONS.

HIGH POWER AMPLIFIER APPLICATIONS.

FEATURES:

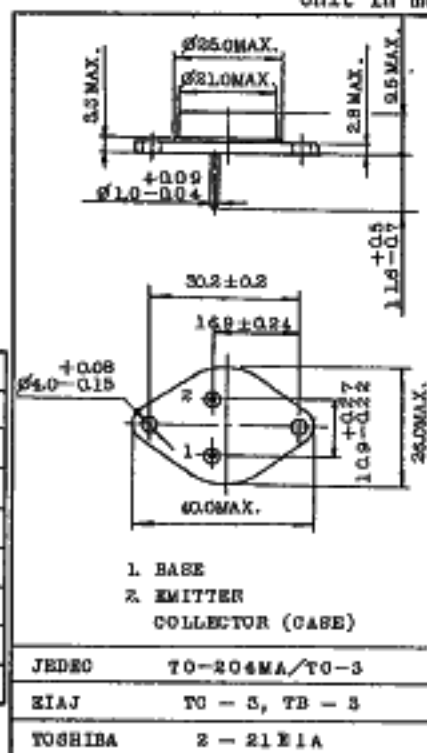
- High Voltage :  $V_{CEO}=400V$
- Low Saturation Voltage :  $V_{CE(sat)}=1.5V$  (Max.)  
( $I_C=5A$ ,  $I_B=1A$ )

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	600	V
Collector-Emitter Voltage	$V_{CEO}$	400	V
Emitter-Base Voltage	$V_{EB0}$	5	V
Collector Current	$I_C$	7	A
Base Current	$I_B$	2	A
Collector Power Dissipation ( $T_C=25^\circ C$ )	$P_C$	100	W
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	$-65 \sim 150$	$^\circ C$

INDUSTRIAL APPLICATIONS

Unit in mm



Mounting Kit No.AC73  
Weight : 15.8g

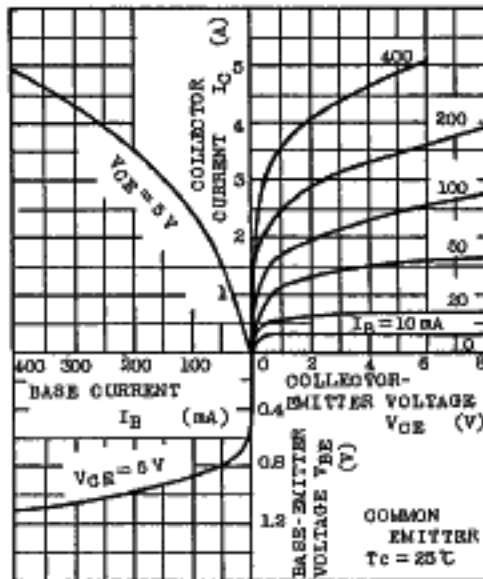
ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ C$ )

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=500V$ , $I_E=0$	-	-	100	$\mu A$
Emitter Cut-off Current	$I_{EB0}$	$V_{EB}=5V$ , $I_C=0$	-	-	1	mA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=10mA$ , $I_B=0$	400	-	-	V
DC Current Gain	$h_{FE}$	$V_{CE}=5V$ , $I_C=1A$	25	-	140	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=5A$ , $I_B=1A$	-	-	1.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=5A$ , $I_B=1A$	-	-	2.0	V
Transition Frequency	$f_T$	$V_{CE}=10V$ , $I_C=0.5A$	-	3	-	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB}=50V$ , $I_E=0$ , $f=1MHz$	-	70	-	pF
Switching Time	Turn-on Time	$t_{on}$	-	1.0	-	$\mu s$
	Storage Time	$t_{stg}$	-	3.0	-	
	Fall Time	$t_f$	-	0.6	-	

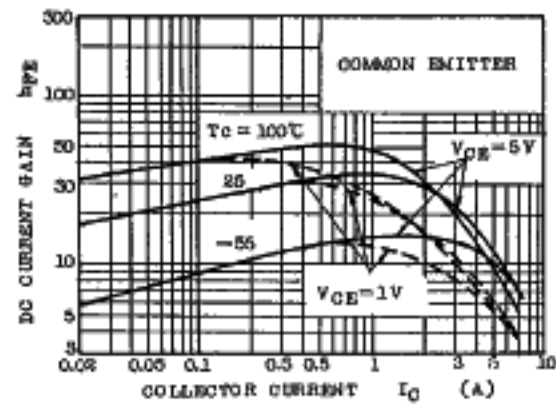
$I_{B1} = -I_{B2} = 0.5A$   
 DUTY CYCLE  $\geq 1\%$

TOSHIBA CORPORATION

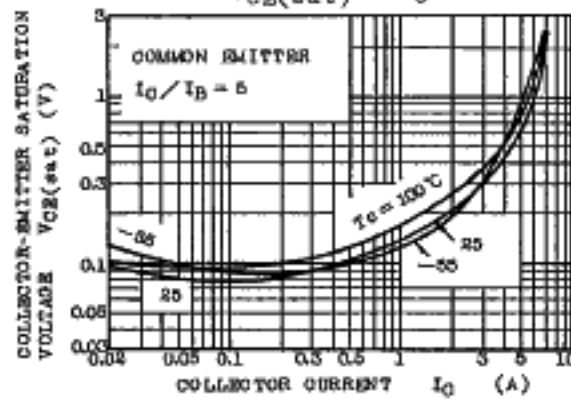
STATIC CHARACTERISTICS



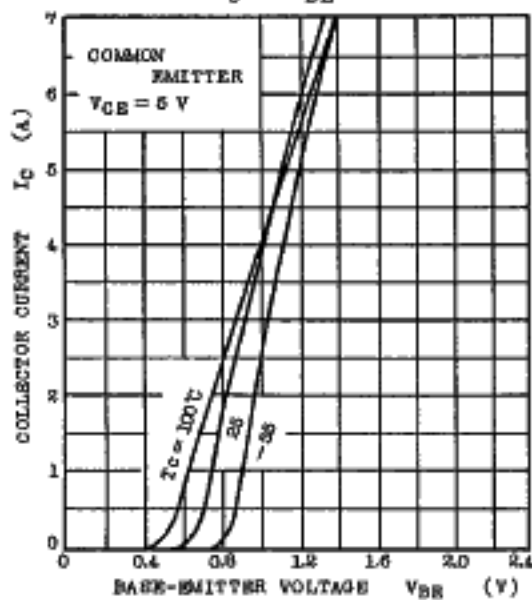
$h_{FE} - I_C$



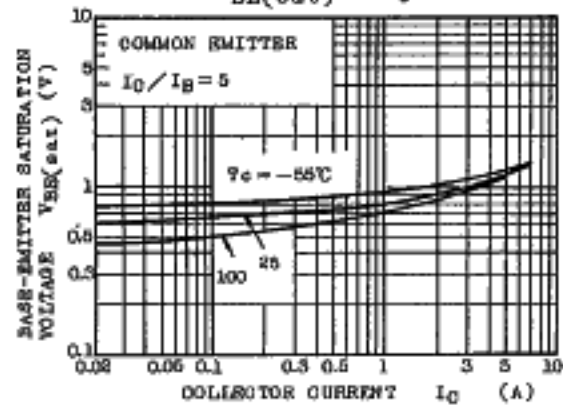
$V_{CE(sat)} - I_C$



$I_C - V_{BE}$



$V_{BE(sat)} - I_C$



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