

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07951 07-33-09

**2SD1411**

SILICON NPN TRIPLE DIFFUSED TYPE

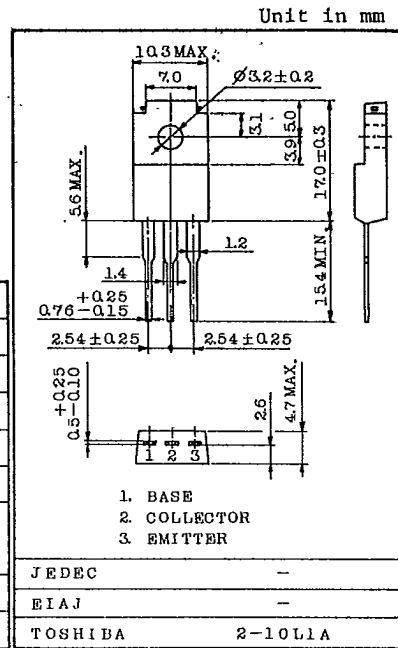
HIGH CURRENT SWITCHING APPLICATIONS.  
POWER AMPLIFIER APPLICATIONS.

## FEATURES:

- Low Saturation Voltage  
:  $V_{CE(sat)}=0.5V(\text{Max.})$  at  $I_C=4A$
- Complementary to 2SB1018

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

CHARACTERISTIC	SYMBOL	RATING	UNIT	
Collector-Base Voltage	$V_{CBO}$	100	V	
Collector-Emitter Voltage	$V_{CEO}$	80	V	
Emitter-Base Voltage	$V_{EBO}$	5	V	
Collector Current	$I_C$	7	A	
Base Current	$I_B$	1	A	
Collector Power Dissipation	$P_C$	$T_a=25^\circ\text{C}$	2.0	W
		$T_c=25^\circ\text{C}$	30	
Junction Temperature	$T_j$	150	$^\circ\text{C}$	
Storage Temperature Range	$T_{stg}$	-55 ~ 150	$^\circ\text{C}$	



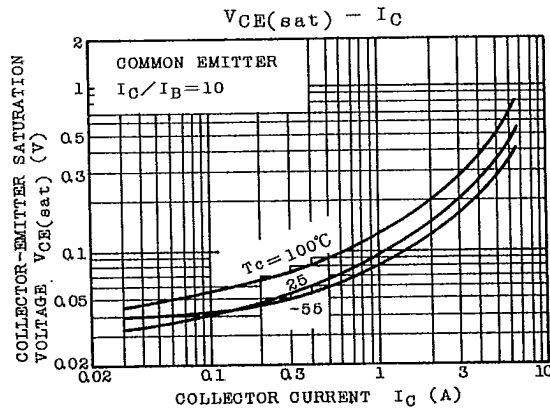
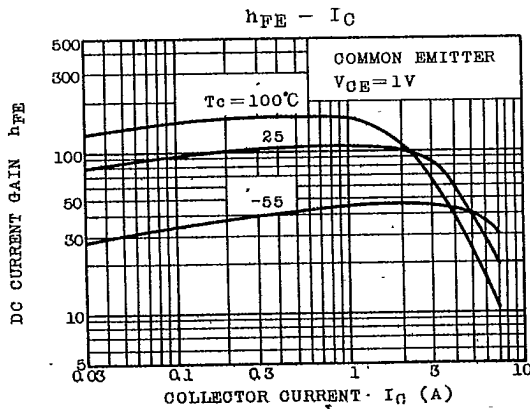
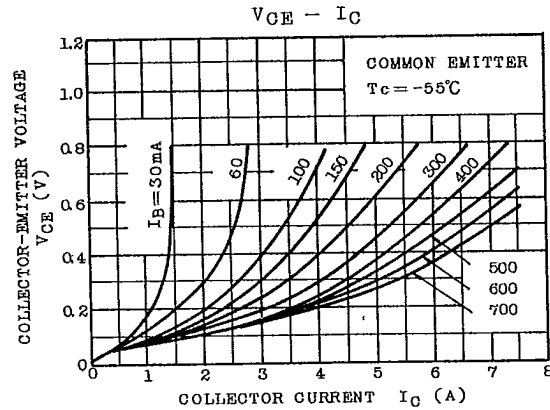
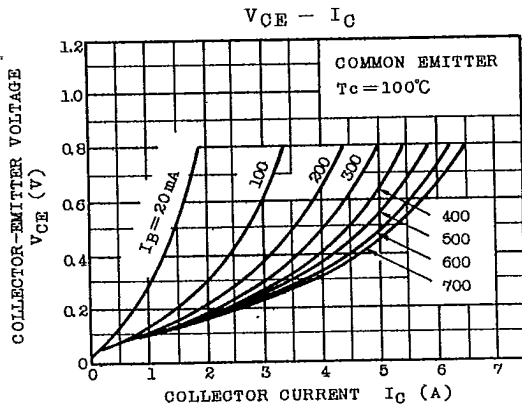
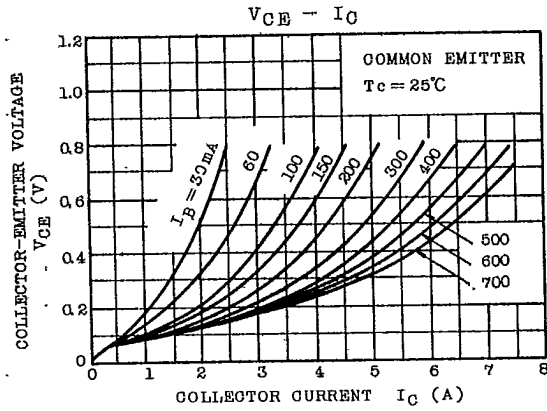
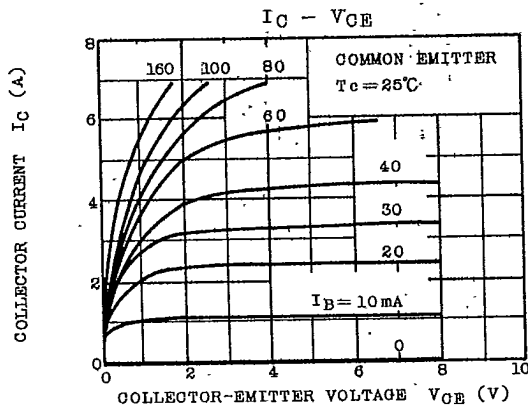
Weight : 2.1g

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=100V, I_E=0$	-	-	5	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=5V, I_C=0$	-	-	5	$\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=50\text{mA}, I_B=0$	80	-	-	V
DC Current Gain	$h_{FE(1)}$ (Note)	$V_{CE}=1V, I_C=1A$	70	-	240	
	$h_{FE(2)}$	$V_{CE}=1V, I_C=4A$	30	-	-	
Saturation Voltage	Collector-Emitter	$V_{CE(sat)}$	-	0.25	0.5	V
	Base-Emitter	$V_{BE(sat)}$	-	0.9	1.4	
Transition Frequency	$f_T$	$V_{CE}=4V, I_C=1A$	-	10	-	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB}=10V, I_E=0, f=1\text{MHz}$	-	250	-	pF
Switching Time	Turn-on Time	$t_{on}$	-	0.4	-	$\mu\text{s}$
	Storage Time	$t_{stg}$	-	2.5	-	
	Fall Time	$t_f$	-	0.5	-	

Note:  $h_{FE(1)}$  Classification O : 70~140, Y : 120~240

TOSHIBA CORPORATION

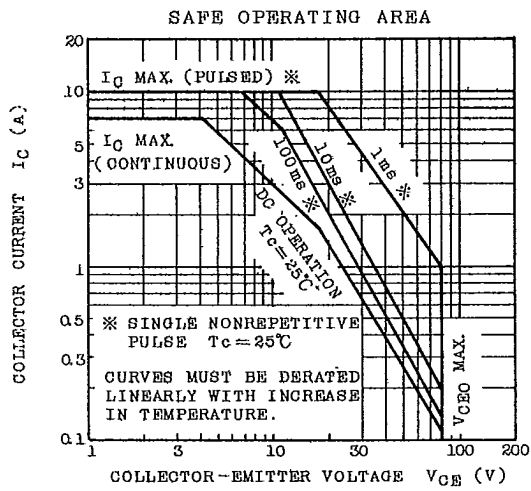
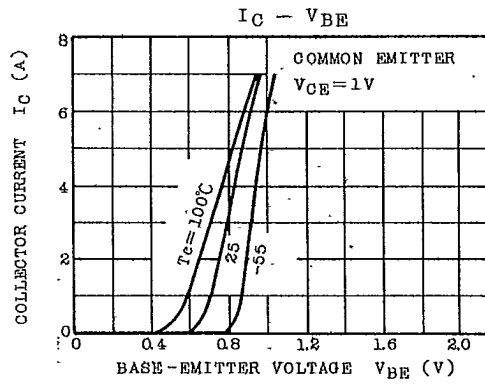
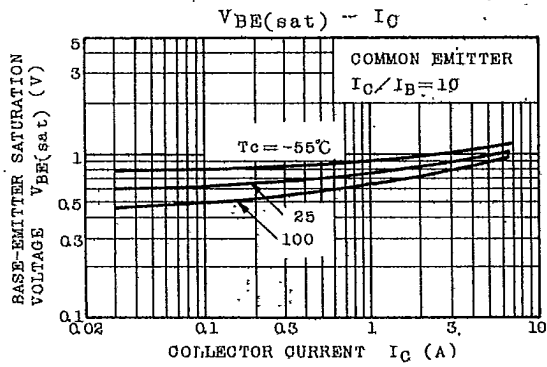


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