SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

2SC3239

HIGH CURRENT SWITCHING APPLICATIONS.

INDUSTRIAL APPLICATIONS

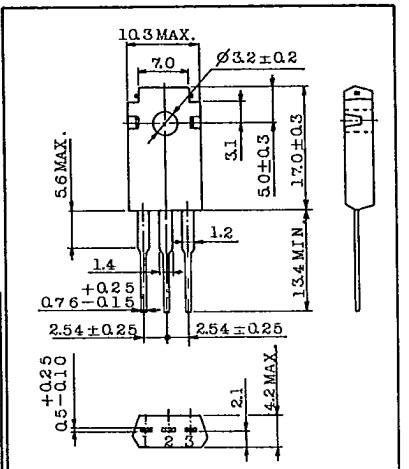
FEATURES:

. Low Collector Saturation Voltage
: $V_{CE(sat)}$=0.4V(Max.) (at I_C=3A)

. High Speed Switching Time : t_{stg}=1.0μs(Typ.)

. Complementary to 2SA1279

Unit in mm



1. BASE
2. COLLECTOR (HEAT SINK)
3. EMITTER

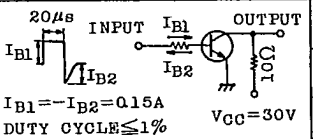
JEDEC	—
EIAJ	—
TOSHIBA	2-10K1A

Weight : 2.0g

MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	5	A
Base Current	I_B	1	A
Collector Power Dissipation (Tc=25°C)	P_C	25	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

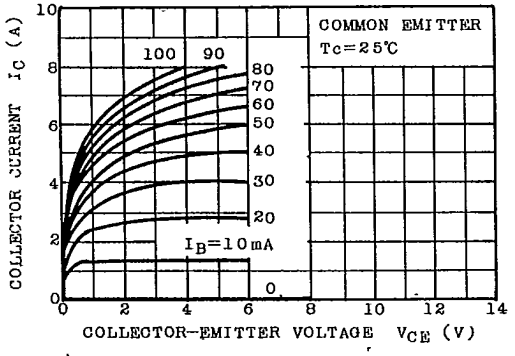
ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB}=50V, I_E=0	-	-	1	μA
Emitter Cut-off Current		I_{EBO}	V_{EB}=5V, I_C=0	-	-	1	μA
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	I_C=10mA, I_B=0	50	-	-	V
DC Current Gain		$h_{FE(1)}$ (Note)	V_{CE}=1V, I_C=1A	70	-	240	
		$h_{FE(2)}$	V_{CE}=1V, I_C=3A	30	-	-	
Saturation Voltage	Collector-Emitter	$V_{CE(sat)}$	I_C=3A, I_B=0.15A	-	0.2	0.4	V
	Base-Emitter	$V_{BE(sat)}$	I_C=3A, I_B=0.15A	-	0.9	1.2	
Transition Frequency		f_T	V_{CE}=4V, I_C=1A	-	120	-	MHz
Collector Output Capacitance		C_{ob}	V_{CB}=10V, I_E=0, f=1MHz	-	80	-	MHz
Switching Time	Turn-on Time	t_{on}		-	0.1	-	μs
	Storage Time	t_{stg}		-	1.0	-	
	Fall Time	t_f		-	0.1	-	

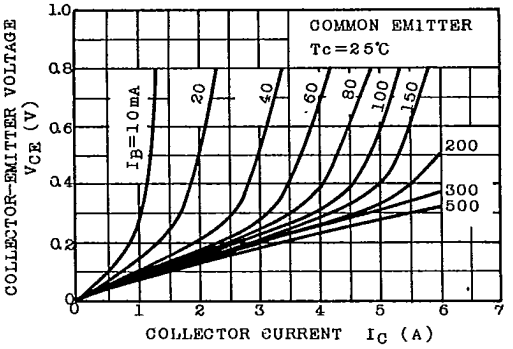
Note : $h_{FE(1)}$ Classification O : 70~140, Y : 120~240

2SC3239

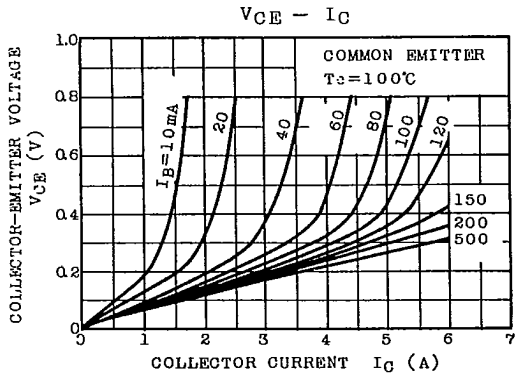
$I_C - V_{CE}$



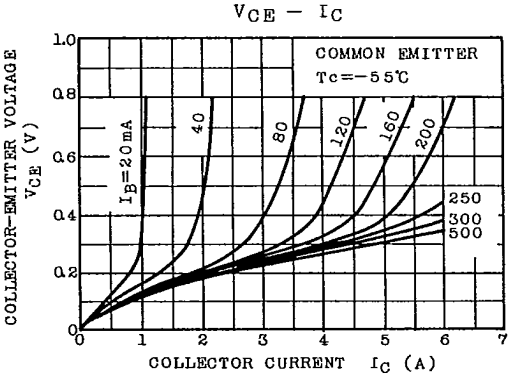
$V_{CE} - I_C$



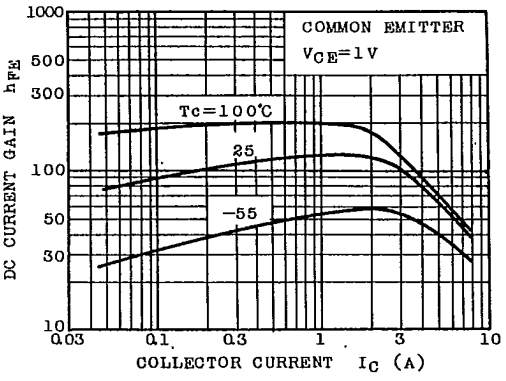
$V_{CE} - I_C$



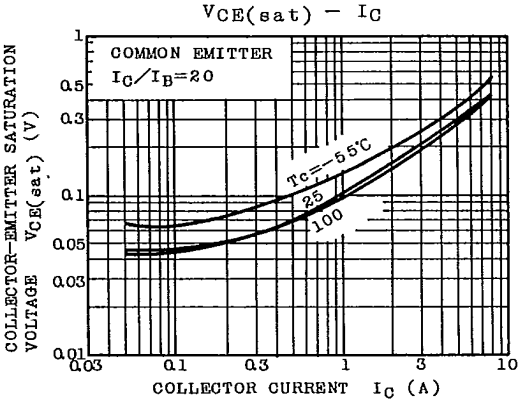
$V_{CE} - I_C$



$h_{FE} - I_C$



$V_{CE(sat)} - I_C$



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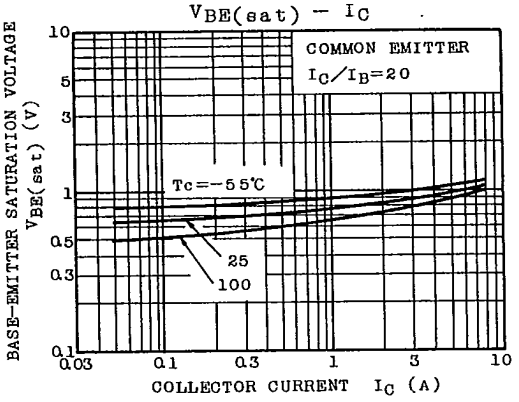
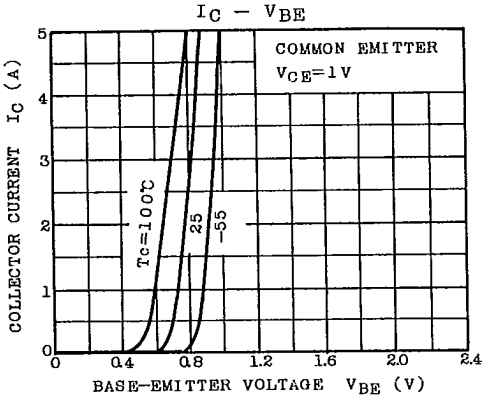
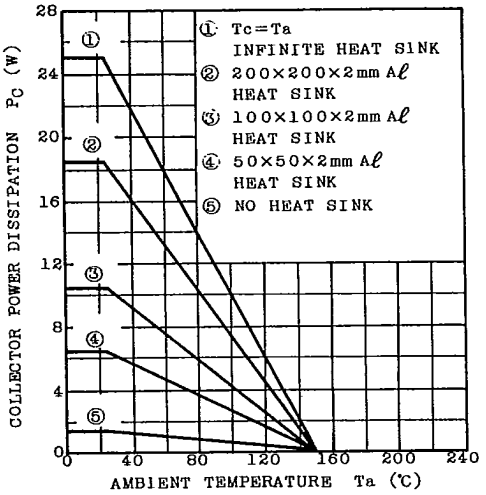
$V_{BE(sat)} - I_C$



$I_C - V_{BE}$



$P_C - Ta$



SAFE OPERATING AREA