●Electrical characteristics (T_a = 25°C)

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Collector-emitter voltage	$V_{CEO(SUS)}$	I_C = -3A, I_B = -300mA L = 1mH	-60	−	−	V
Collector-base breakdown voltage	BV_{CBO}	I_C = -50μA	-100	-	-	V
Collector-emitter breakdown voltage	BV_{CEO}	I_C = -1mA	-60	-	-	V
Emitter-base breakdown voltage	BV_{EBO}	I_E = -50μA	-5	-	-	V
Collector cut-off current	I_{CBO}	V_{CB} = -100V	-	-	-10	μA
Emitter cut-off current	I_{EBO}	V_{EB} = -5V	-	-	-10	μA
Collector-emitter saturation voltage	$V_{CE(sat)}1$	I_C = -3A, I_B = -150mA	-	-	-300	mV
	$V_{CE(sat)}2$*4	I_C = -4A, I_B = -200mA	-	-	-500	mV
Base-emitter saturation voltage	$V_{BE(sat)}1$*4	I_C = -3A, I_B = -150mA	-	-	-1.2	V
	$V_{BE(sat)}2$*4	I_C = -4A, I_B = -200mA	-	-	-1.5	V
DC current gain	$h_{FE}1$*4	V_{CE} = -2V, I_C = -1A	82	150	270	-
	$h_{FE}2$*4	V_{CE} = -2V, I_C = -3A	40	-	-	
Transition frequency	f_T*4	V_{CE} = -10V, I_E = 0.5A, f = 30MHz	-	80	-	MHz
Output capacitance	C_{ob}	V_{CB} = -10V, I_E = 0A, f = 1MHz	-	130	-	pF
Turn-on delay time	t_{on}	I_C = -3A, I_{B1} = -150mA, I_{B2} = 150mA, V_{CC} ≃ -30V, R_L = 10Ω See test circuit	-	-	0.3	μs
Storage time	t_{stg}		-	-	1.5	μs
Fall time	t_f		-	-	0.3	μs

hFE values are calssified as follows :

rank	P	Q	-	-	-
$h_{FE}1$	82-180	120-270	-	-	-

*1 t=100ms

*2 Ta=25℃

*3 Tc=25℃

*4 Pulsed

●Electrical characteristic curves(T_a = 25°C)

Fig.1 Ground Emitter Propagation Characteristics

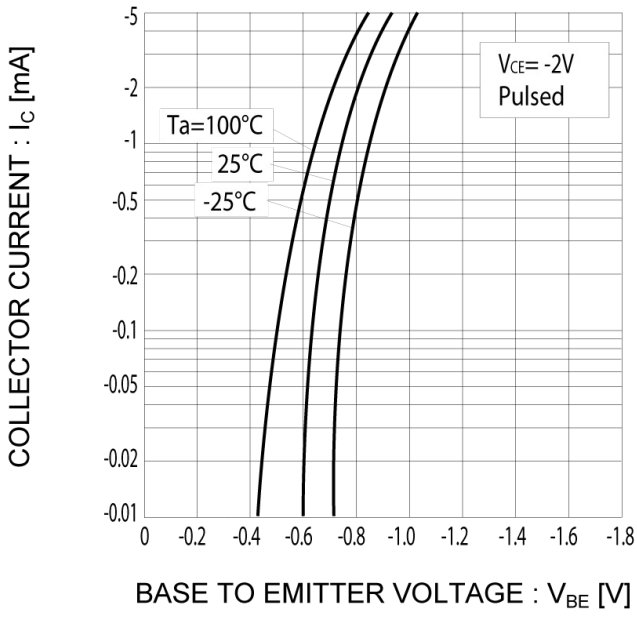


Fig.2 Typical Output Characteristics

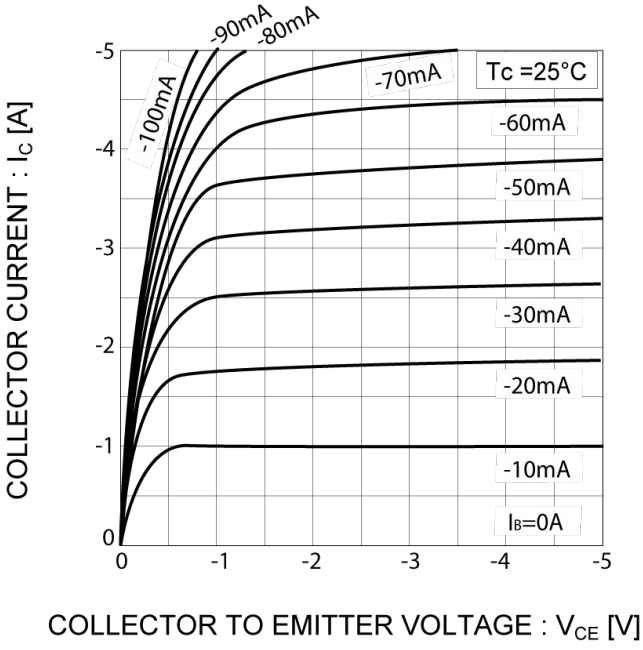


Fig.3 DC Current Gain vs. Collector Current (I)

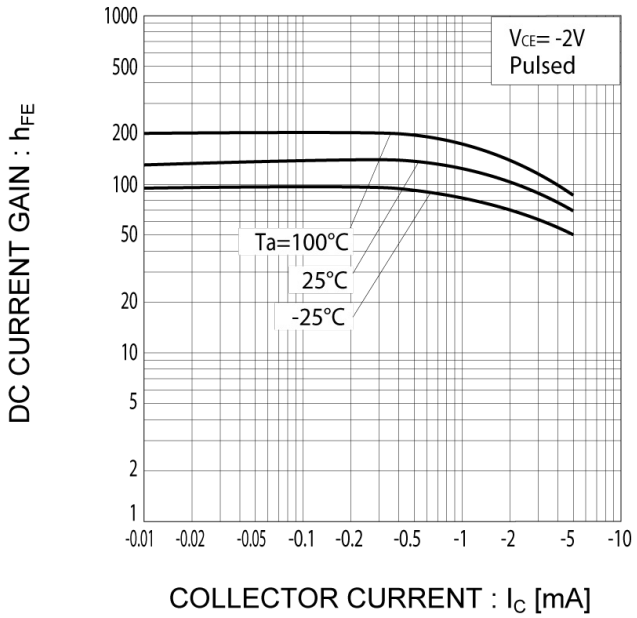
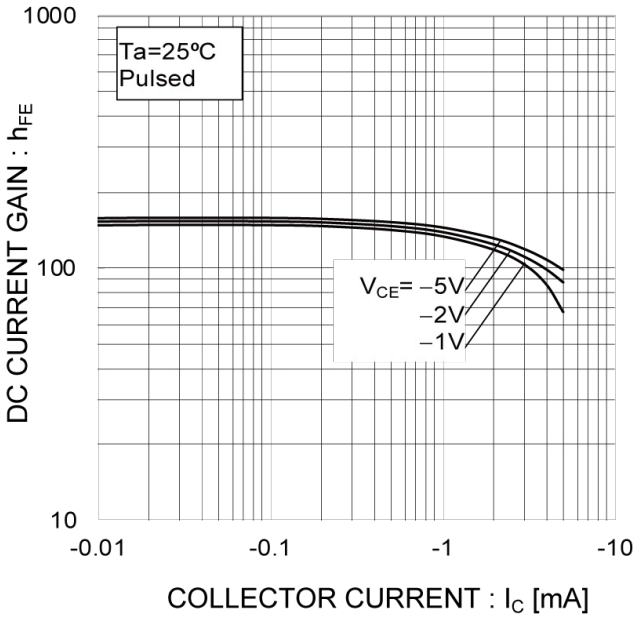


Fig.4 DC Current Gain vs. Collector Current (II)



●Electrical characteristic curves(T_a = 25°C)

Fig.5 Collector-Emitter Saturation Voltage vs. Collector Current (I)

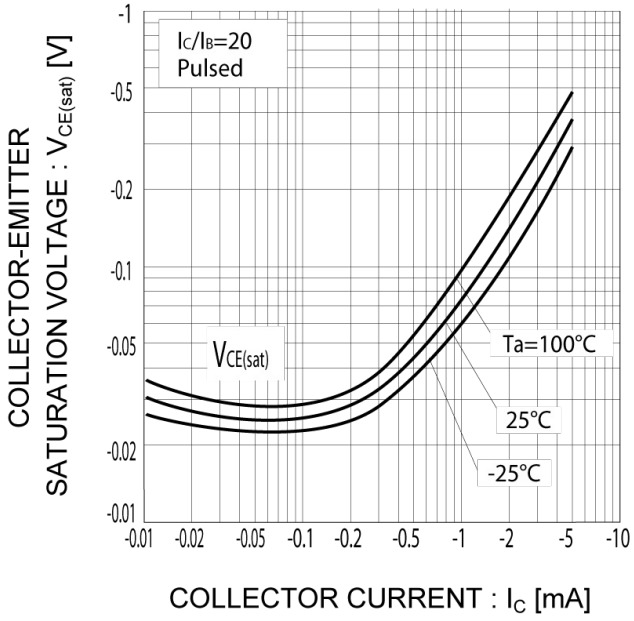


Fig.6 Collector-Emitter Saturation Voltage vs. Collector Current (II)

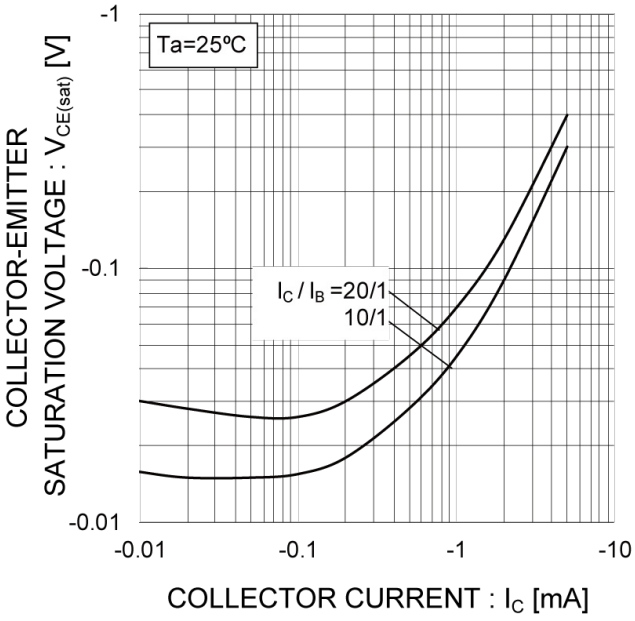


Fig.7 Base-Emitter Saturation Voltage vs. Collector Current

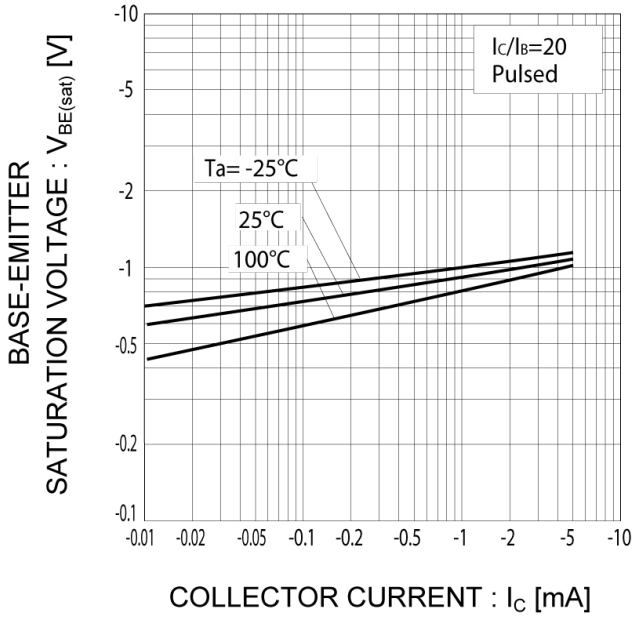
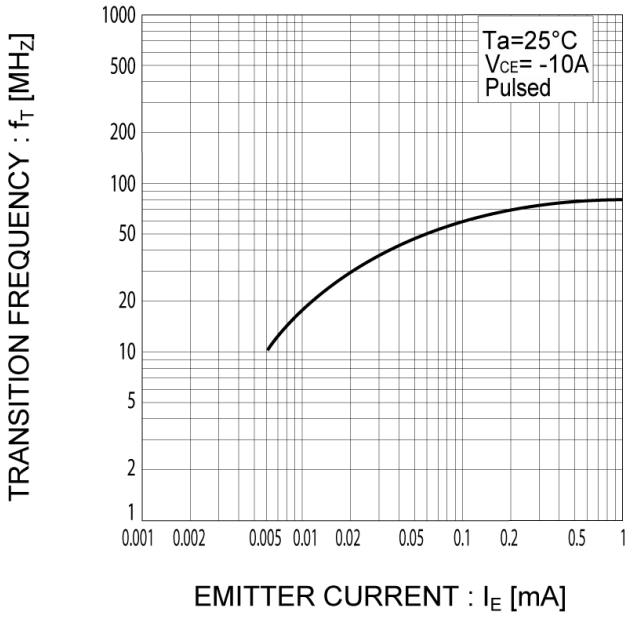


Fig.8 Gain Bandwidth Product vs. Emitter Current



●Electrical characteristic curves(T_a = 25°C)

Fig.9 Emitter Input Capacitance vs. Emitter-Base Voltage
Collector Output Capacitance vs. Collector-Base Voltage

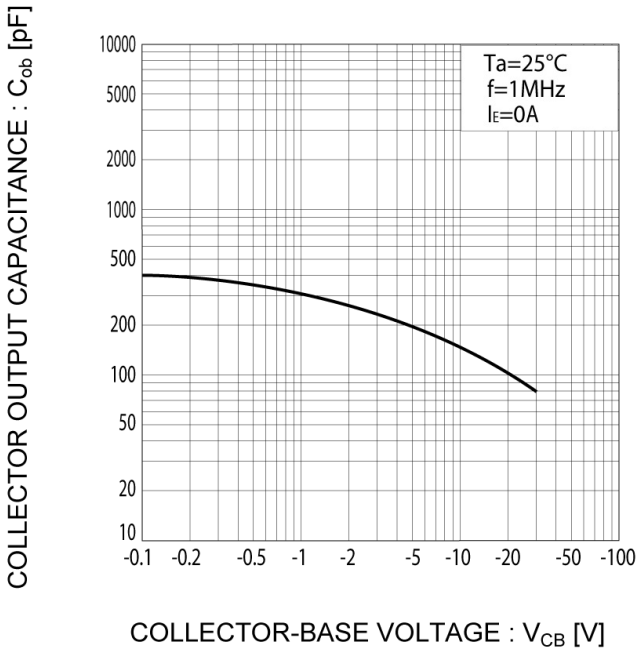
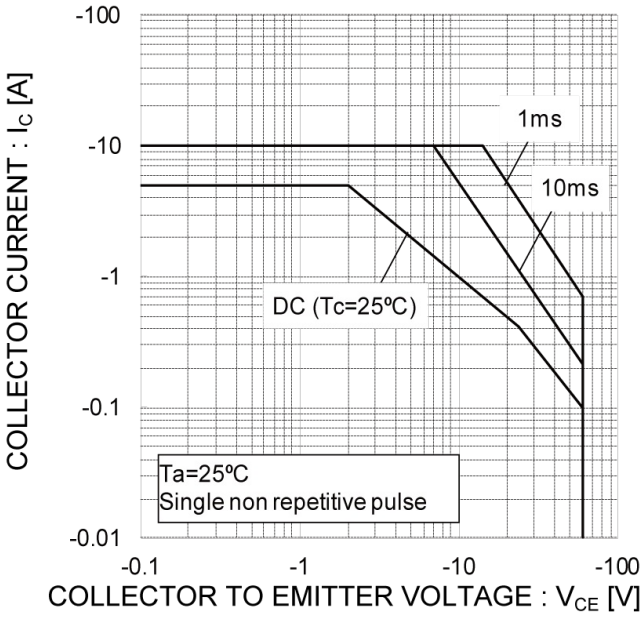
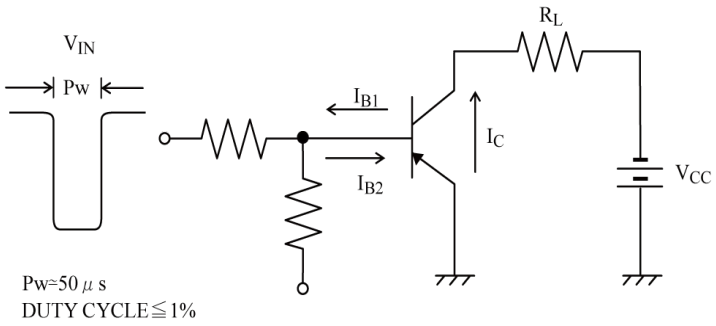
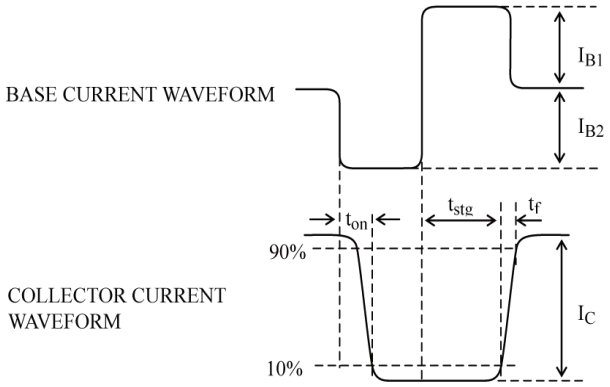


Fig.10 Safe Operating Area



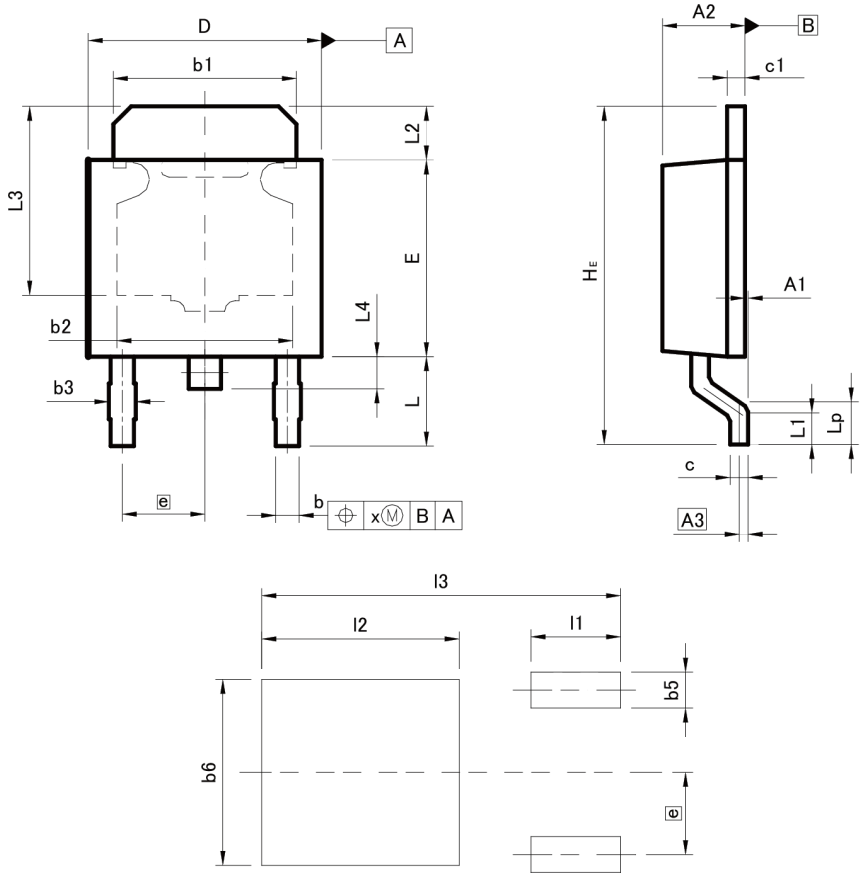
SWITCHING TIME TEST CIRCUIT





●Dimensions

CPT



Pattern of terminal position areas
[Not a recommended pattern of soldering pads]

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A1	0.00	0.15	0.000	0.006
A2	2.20	2.50	0.087	0.098
A3	0.25		0.010	
b	0.55	0.75	0.022	0.030
b1	5.00	5.30	0.197	0.209
b2	5.00		0.197	
b3	0.75		0.030	
c	0.40	0.60	0.016	0.024
c1	0.40	0.60	0.016	0.024
D	6.30	6.70	0.248	0.264
E	5.40	5.80	0.213	0.228
e	2.30		0.091	
HE	9.00	10.00	0.354	0.394
L	2.20	2.80	0.087	0.110
L1	0.80	1.40	0.031	0.055
L2	1.20	1.80	0.047	0.071
L3	5.30		0.209	
L4	0.90		0.035	
Lp	1.00	1.60	0.039	0.063
x	–	0.25	–	0.010

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
b5	–	1.00	–	0.04
b6	–	5.20	–	0.205
l1	–	2.50	–	0.098
l2	–	5.50	–	0.217
l3	–	10.00	–	0.394

Dimension in mm/inches

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