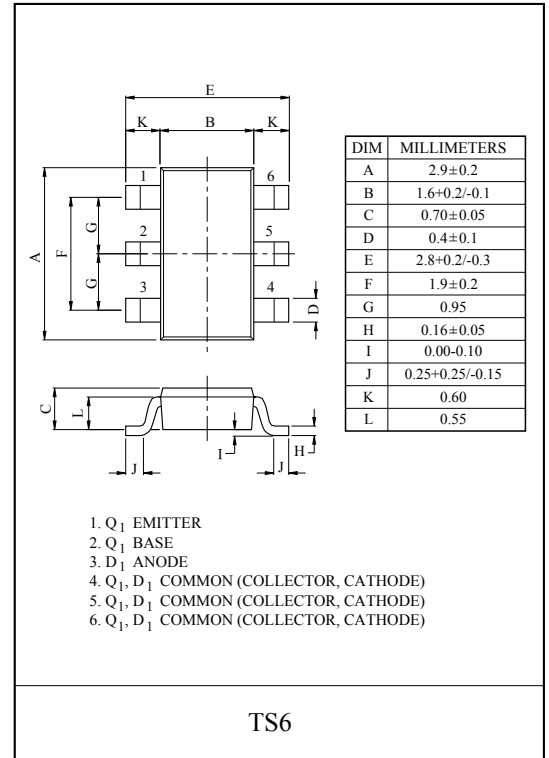
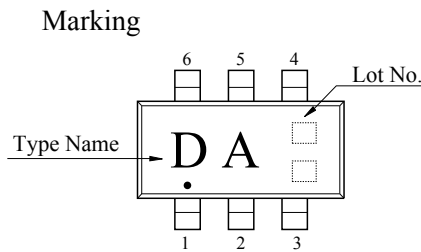
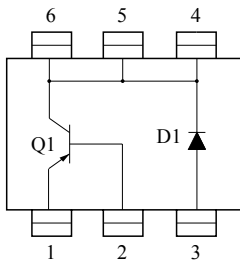


DC/DC CONVERTER APPLICATIONS.

FEATURES

- Composite type with a PNP transistor and a Schottky barrier diode contained in one package facilitating high-density mounting.
- The KTX511T consists of two chips which are equivalent to the KTA1532T and the KDR701S, respectively.
- Ultrasmall-sized package permitting applied sets to be made small and slim (mounting height 0.7mm).

EQUIVALENT CIRCUIT (TOP VIEW)



MAXIMUM RATING (Ta=25°C)

Transistor Q₁

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V _{CBO}	-20	V
Collector-Emitter Voltage		V _{CEO}	-20	V
Emitter-Base Voltage		V _{EBO}	-5	V
Collector Current	DC	I _C	-1.5	A
	Pulse	I _{CP}	-3	A
Base Current		I _B	-300	mA
Collector Power Dissipation		P _C *	0.9	W
Junction Temperature		T _j	150	°C
Storage Temperature Range		T _{stg}	-55 ~ 150	°C

* Package mounted on a ceramic board (600mm² × 0.8mm)

Diode (SBD) D₁

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Reverse Voltage	V _{RRM}	30	V
Reverse Voltage	V _R	30	V
Average Forward Current	I _O	0.7	A
Non-Repetitive Peak Surge Current	I _{FSM}	5	A
Junction Temperature	T _j	125	°C
Storage Temperature Range	T _{stg}	-55 ~ 150	°C

KTX511T

ELECTRICAL CHARACTERISTICS (Ta=25°C)

Transistor Q₁

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT				
Collector Cut-off Current	I_{CBO}	$V_{CB}=-12V, I_E=0$	-	-	-0.1	μA				
Emitter Cut-off Current	I_{EBO}	$V_{EB}=-4V, I_C=0$	-	-	-0.1	μA				
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu A, I_E=0$	20	-	-	V				
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1mA, I_B=0$	20	-	-	V				
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10\mu A, I_C=0$	-5	-	-	V				
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-750mA, I_B=-15mA$	-	-120	-180	mV				
		$I_C=-1.5A, I_B=-30mA$	-	-210	-320	mV				
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-750mA, I_B=-15mA$	-	-0.85	-1.2	V				
DC Current Gain	h_{FE}	$V_{CE}=-2V, I_C=-100mA$	200	-	560					
Transition Frequency	f_T	$V_{CE}=-2V, I_C=-300mA$	-	210	-	MHz				
Collector Output Capacitance	C_{ob}	$V_{CB}=-10V, f=1MHz$	-	30	-	pF				
Switching Time	Turn-On Time	t_{on}					-	50	-	nS
	Storage Time	t_{stg}					-	90	-	
	Fall Time	t_f					-	15	-	

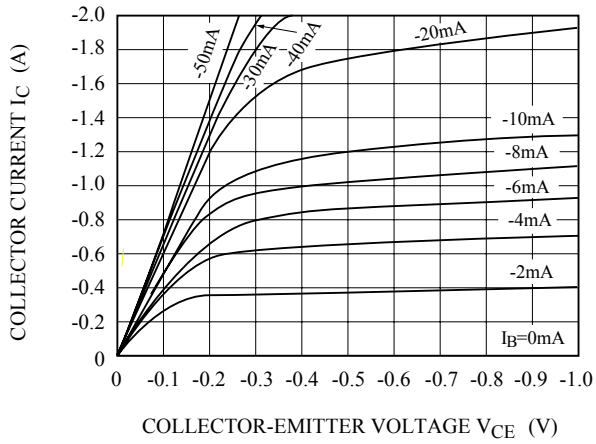
Diode (SBD) D₁

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Voltage	V_R	$I_R=1mA$	30	-	-	V
Forward Voltage	V_F	$I_F=0.7A$	-	-	0.55	V
Reverse Current	I_R	$V_R=30V$			80	μA
Total Capacitance	C_T	$V_R=0V, f=1MHz$	-	190	-	pF
Reverse Recover Time	t_{rr}	$I_F=I_R=100mA$	-	7.5	-	ns

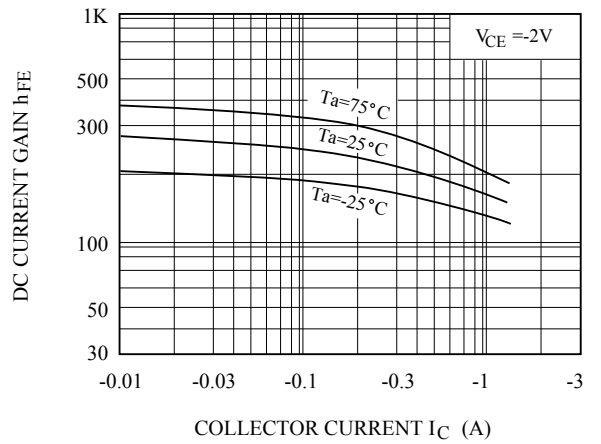
KTX511T

Q₁ (PNP TRANSISTOR)

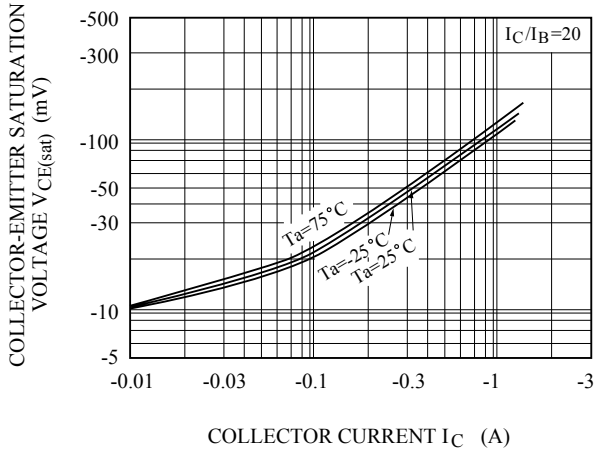
$I_C - V_{CE}$



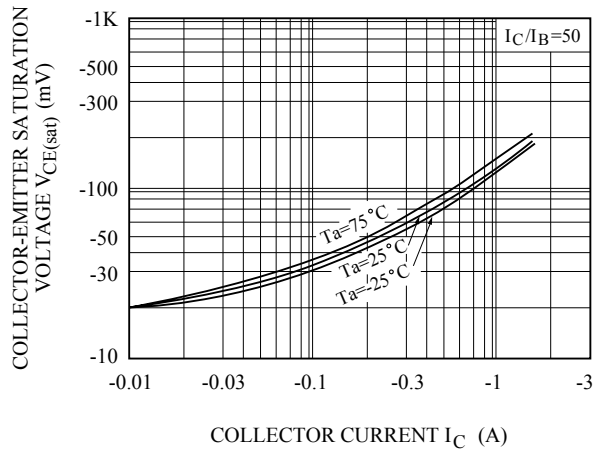
$h_{FE} - I_C$



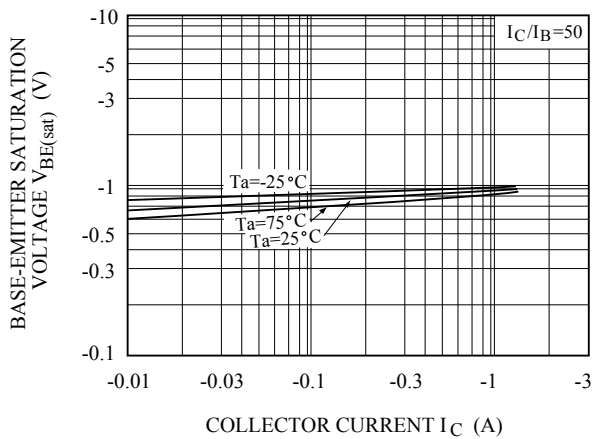
$V_{CE(sat)} - I_C$



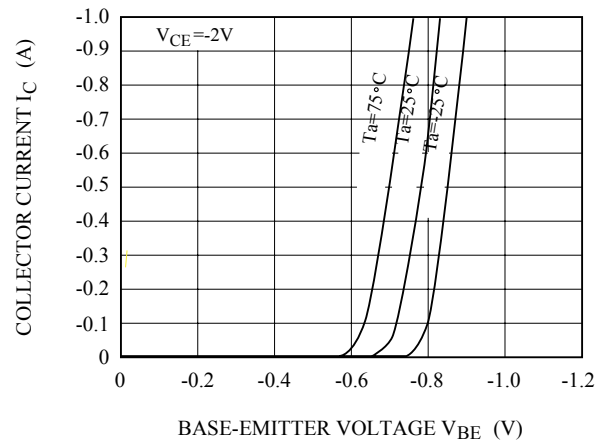
$V_{CE(sat)} - I_C$



$V_{BE(sat)} - I_C$

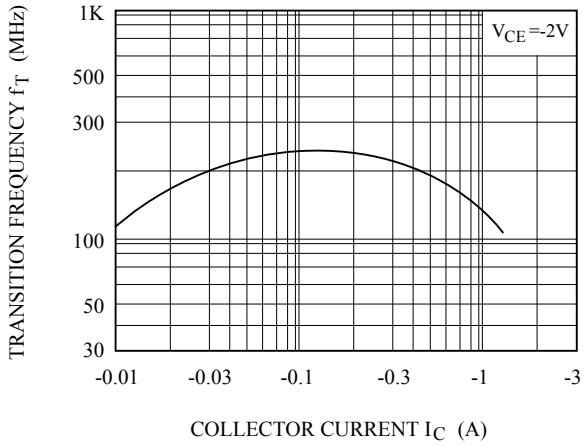


$I_C - V_{BE}$

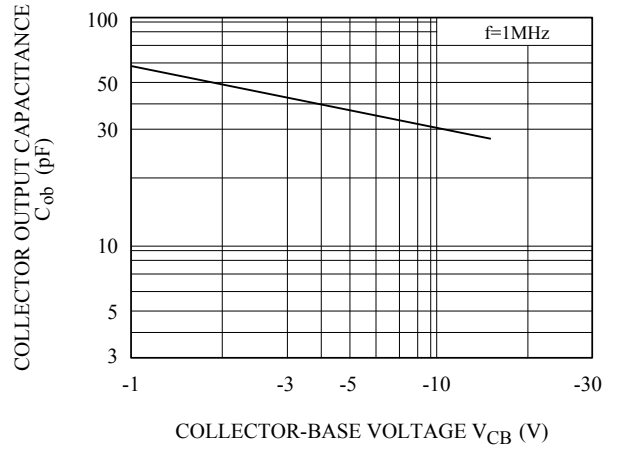


KTX511T

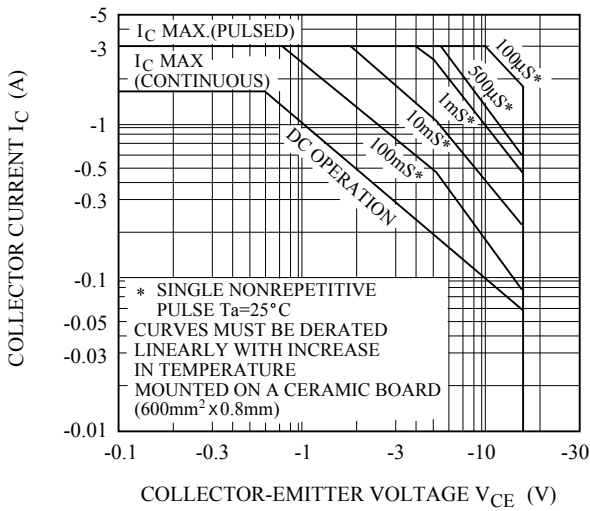
$f_T - I_C$



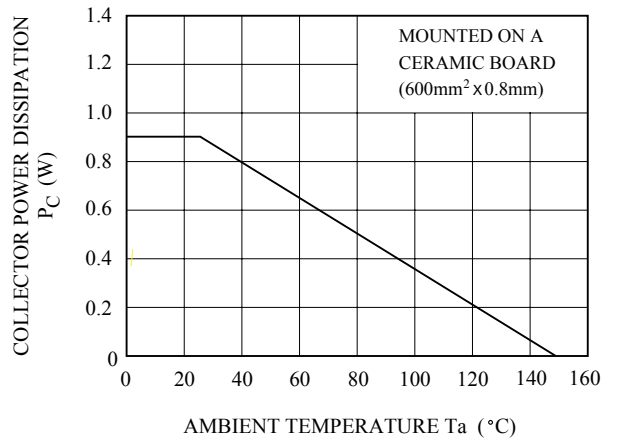
$C_{ob} - V_{CB}$



SAFE OPERATING AREA

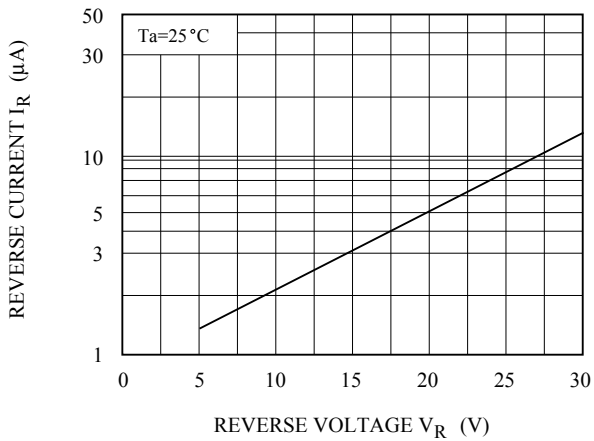


$P_c - T_a$

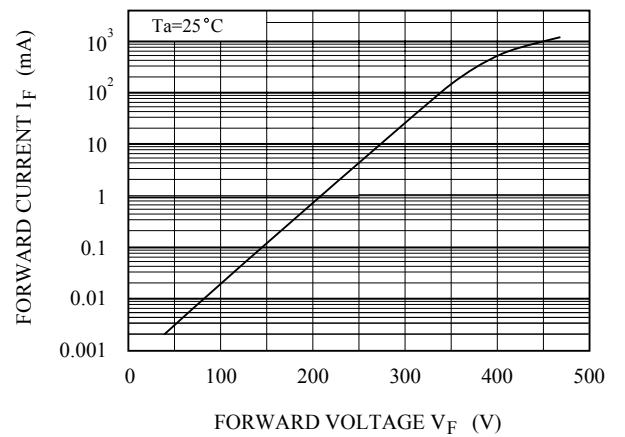


D_1 (SBD)

$I_R - V_R$



$I_F - V_F$



KTX511T

