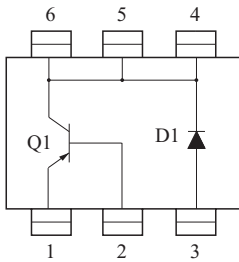


DC/DC CONVERTER APPLICATIONS.

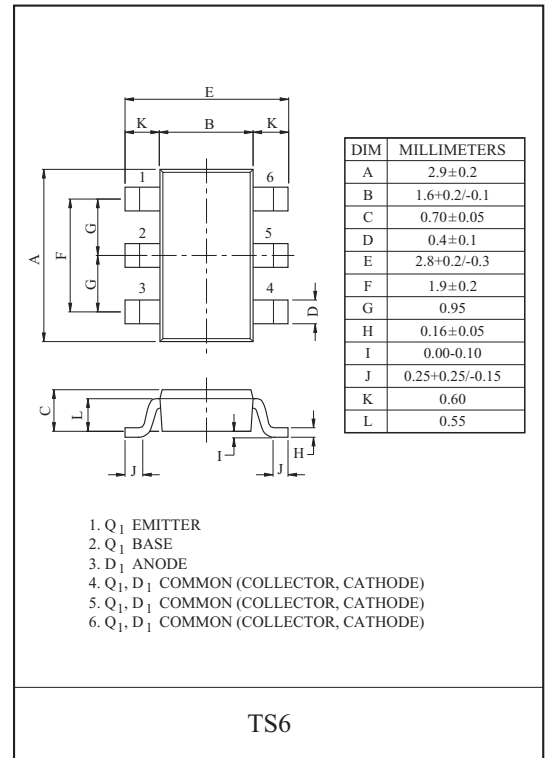
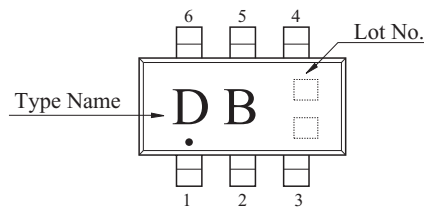
FEATURES

- Composite type with a PNP transistor and a Schottky barrier diode contained in one package facilitating high-density mounting.
- The KTX512T is formed with two chips, one being equivalent to the KTA1535T and the other the KDR411S, encapsulated in one packages.
- Ultrasmall package facilitates miniaturization in end products (mounting height 0.7 mm).

EQUIVALENT CIRCUIT (TOP VIEW)



Marking



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	-3	A
	Pulse	I _{CP}	-5	A
Base Current		I _B	600	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
Peak Reverse Voltage	V _{RRM}	40	V
DC Reverse Voltage	V _R	20	V
Average Output Current	I _D	0.5	A
Peak Forward Surge Current	I _{FSM}	3	A
Junction Temperature	T _j	125	°C
Storage Temperature Range	T _{stg}	-40 ~ 125	°C

KTX512T

ELECTRICAL CHARACTERISTICS (Ta=25 °C)

Transistor Q₁

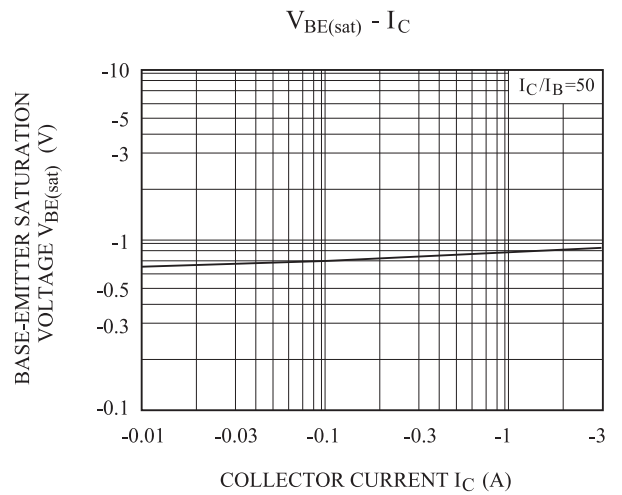
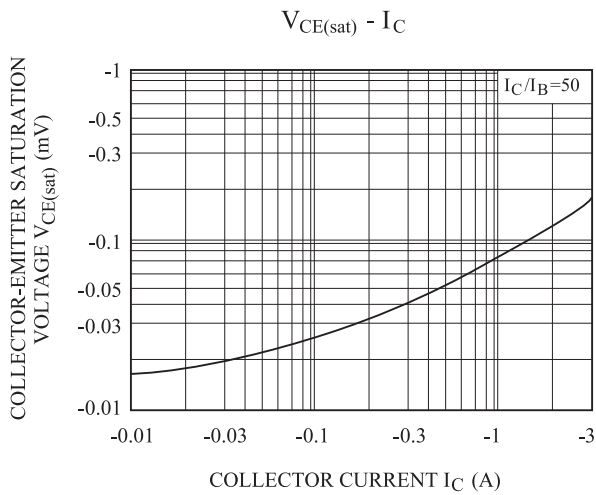
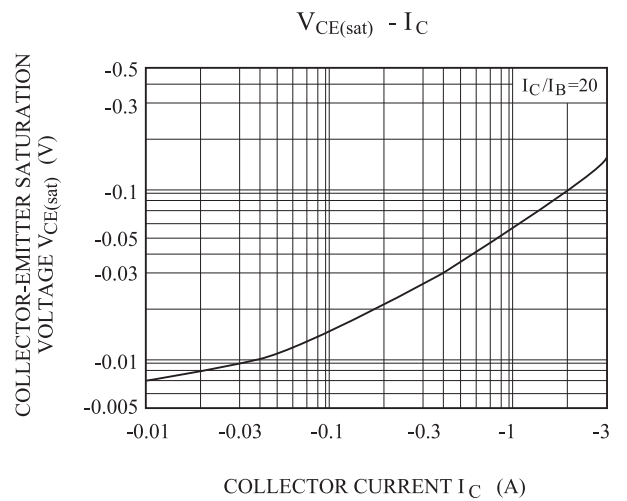
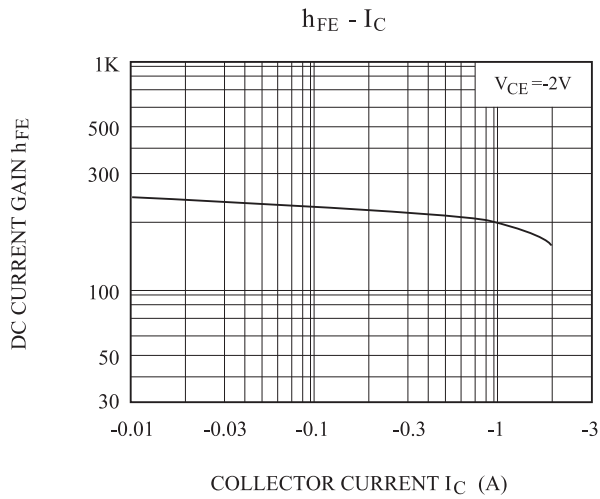
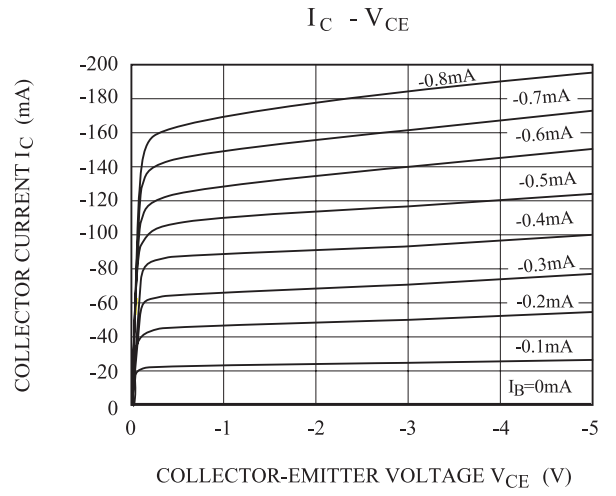
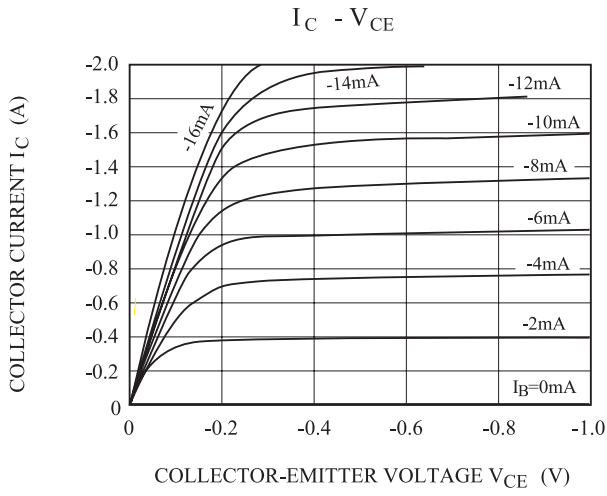
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I _{CBO}	V _{CB} =-12V, I _E =0	-	-	-0.1	μA
Emitter Cut-off Current		I _{EBO}	V _{EB} =-4V, I _C =0	-	-	-0.1	μA
Collector-Base Breakdown Voltage		V _{(BR)CBO}	I _C =-10μA, I _E =0	-20	-	-	V
Collector-Emitter Breakdown Voltage		V _{(BR)CEO}	I _C =-1mA, I _B =0	-20	-	-	V
Emitter-Base Breakdown Voltage		V _{(BR)EBO}	I _E =-10μA, I _C =0	-5	-	-	V
Collector-Emitter Saturation Voltage		V _{CE(sat)}	I _C =-1.5A, I _B =-30mA	-	-130	-165	mV
Base-Emitter Saturation Voltage		V _{BE(sat)}	I _C =-1.5A, I _B =-30mA	-	-0.85	-1.2	V
DC Current Gain		h _{FE}	V _{CE} =-2V, I _C =-500mA	200	-	560	
Transition Frequency		f _T	V _{CE} =-2V, I _C =-500mA	-	160	-	MHz
Collector Output Capacitance		C _{ob}	V _{CB} =-10V, f=1MHz	-	45	-	pF
Switching Time	Turn-On Time	t _{on}		-	30	-	nS
	Storage Time	t _{stg}		-	90	-	
	Fall Time	t _f		-	10	-	

Diode (SBD) D₁

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Forward Voltage	V _F (1)	I _F =10mA	-	-	0.3	V
	V _F (2)	I _F =500mA	-	-	0.5	V
Reverse Current	I _R	V _R =10V	-	-	30	μA
Total Capacitance	C _T	V _R =10V, f=1MHz	-	20	-	pF

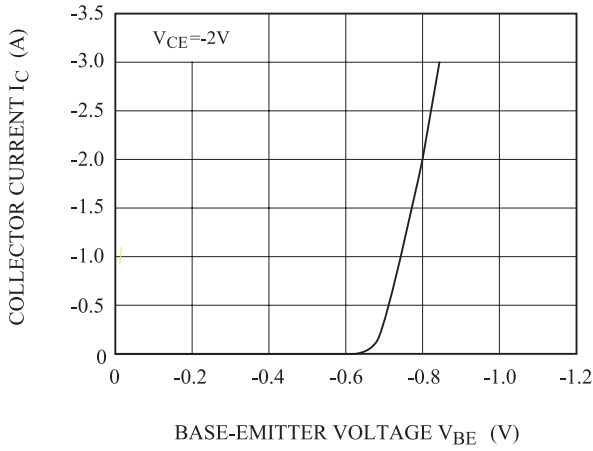
KTX512T

Q₁ (TRANSISTOR)

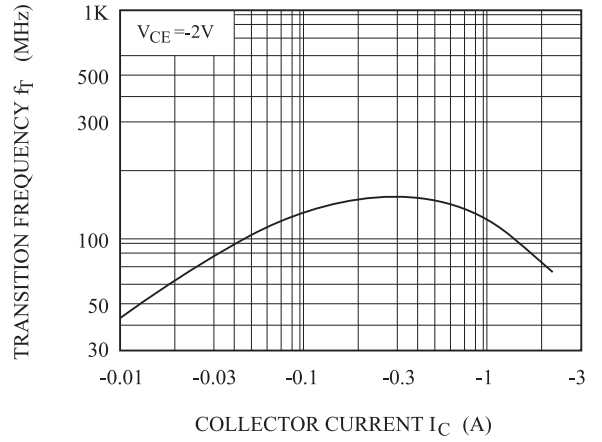


KTX512T

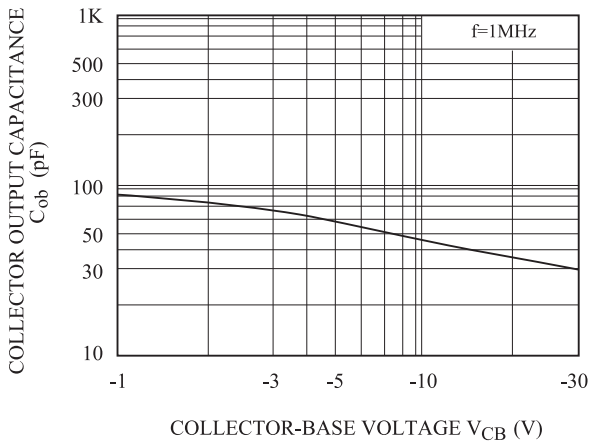
$I_C - V_{BE}$



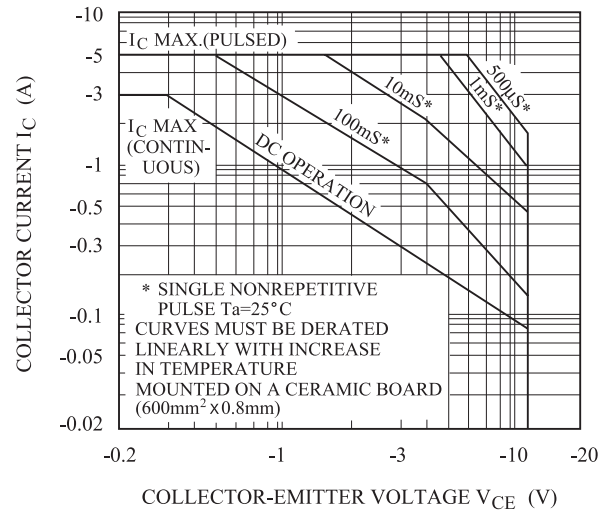
$f_T - I_C$



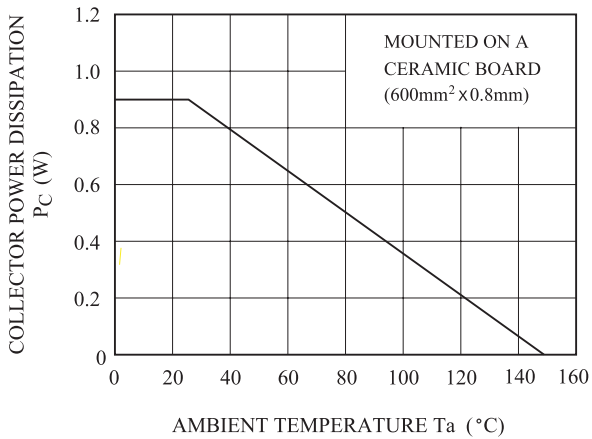
$C_{ob} - V_{CB}$



SAFE OPERATING AREA

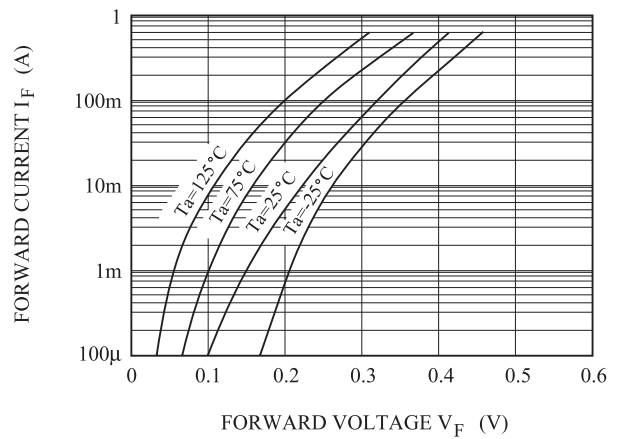


$P_c - T_a$



D_1 (SBD)

$I_F - V_F$



KTX512T

