

HIGH CURRENT SWITCHING APPLICATION.

APPLICATION

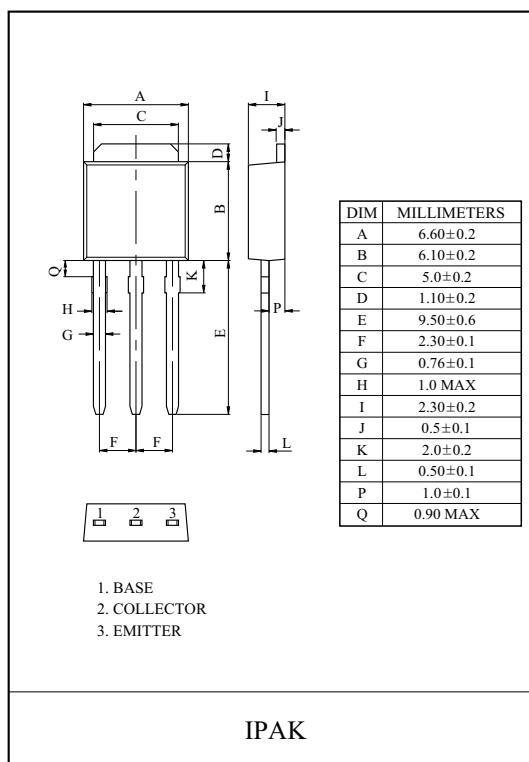
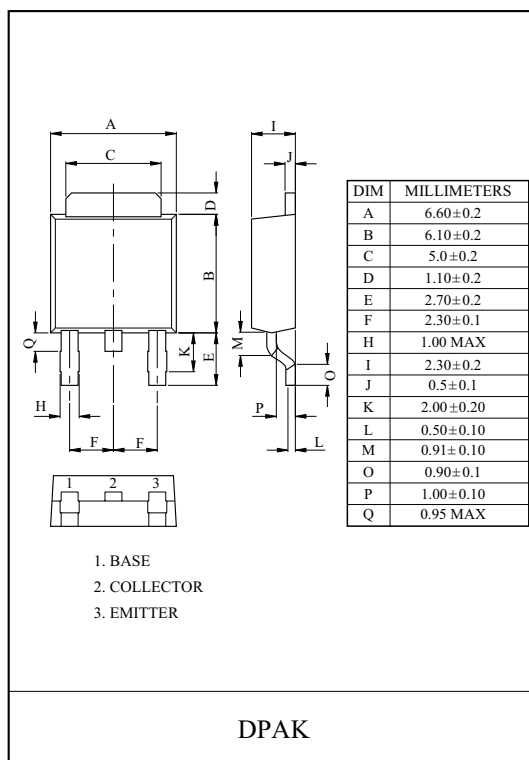
Relay drivers, high-speed inverters, converters, and other general high-current switching applications.

FEATURES

- Low Collector Emitter Saturation Voltage.
: $V_{CE(sat)}=0.4V(\text{Max.})$ ($I_C=4A$)
- High Current and High f_T
: $I_C=8A$, $f_T=180\text{MHz}$.
- Excellent Linearity of h_{FE}
- High Speed Switching Time.
: $t_T=20\text{nS}$ (Typ.)
- Complementary to KTA1204D/L

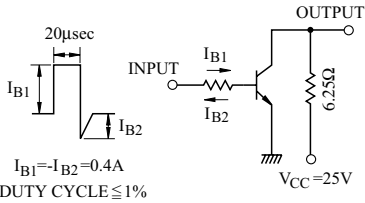
MAXIMUM RATING ($T_a=25^\circ\text{C}$)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	60	V
Collector-Emitter Voltage		V_{CEO}	60	V
Emitter-Base Voltag		V_{EBO}	6	V
Collector Current	DC	I_C	8	A
	Pulse	I_{CP}	12	
Collector Power Dissipation	$T_a=25^\circ\text{C}$	P_C	1.0	W
	$T_c=25^\circ\text{C}$		20	
Junction Temperature		T_j	150	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	-55 ~ 150	$^\circ\text{C}$



KTC1804D/L

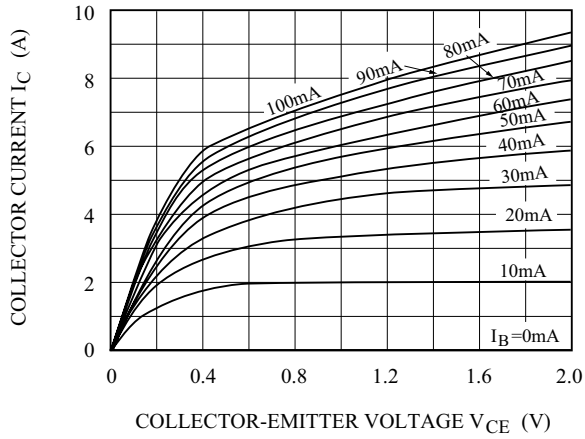
ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB}=40V, I_E=0$	-	-	1	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB}=4V, I_C=0$	-	-	1	μA
DC Current Gain	$h_{FE}(1)$ (Note)		$V_{CE}=2V, I_C=0.5A$	100	-	400	
	$h_{FE}(2)$		$V_{CE}=2V, I_C=6A$	35	-	-	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C=4A, I_B=0.2A$	-	200	400	mV
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C=4A, I_B=0.2A$	-	0.95	1.3	mV
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	60			V
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	50			V
Emitter-base Breakdown Voltage		$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	6	-	-	V
Gain-Bandwidth Product		f_T	$V_{CE}=5V, I_C=1A$	-	180	-	MHz
Collector Output Capacitance		C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$	-	65	-	pF
Switching Time	Turn On Time	t_{on}	 $I_{B1} = -I_{B2} = 0.4A$ DUTY CYCLE $\leq 1\%$	-	50	-	nS
	Storage Time	t_{stg}		-	500	-	
	Fall Time	t_f		-	20	-	

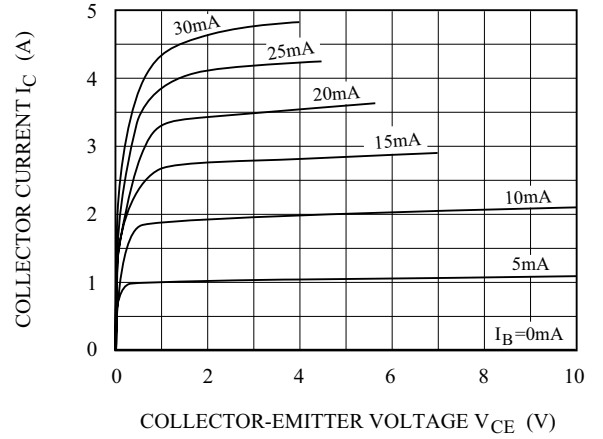
Note : h_{FE} Classification O:100~200, Y:140~280, GR:200~400.

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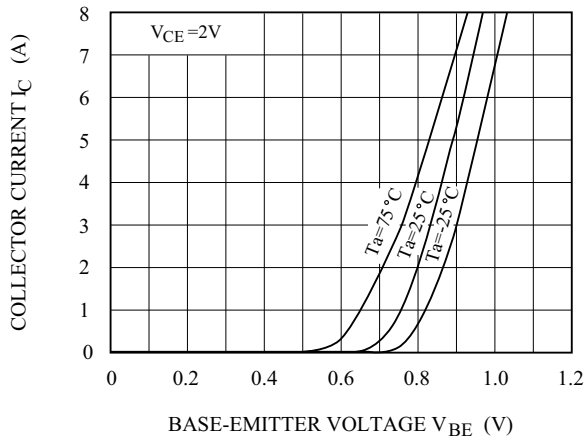
$I_C - V_{CE}$



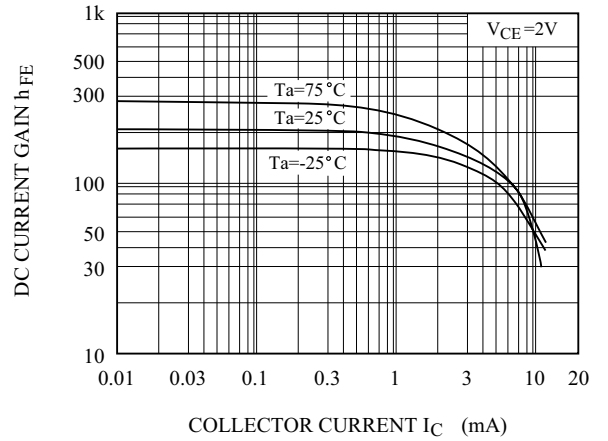
$I_C - V_{CE}$



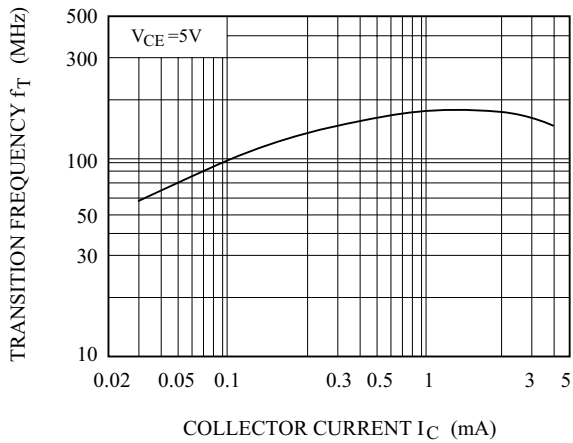
$I_C - V_{BE}$



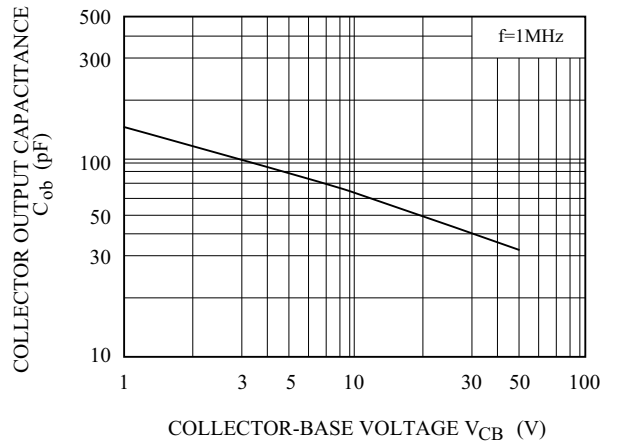
$h_{FE} - I_C$



$f_T - I_C$



$C_{ob} - V_{CB}$



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