

HIGH CURRENT SWITCHING APPLICATION.

### APPLICATION

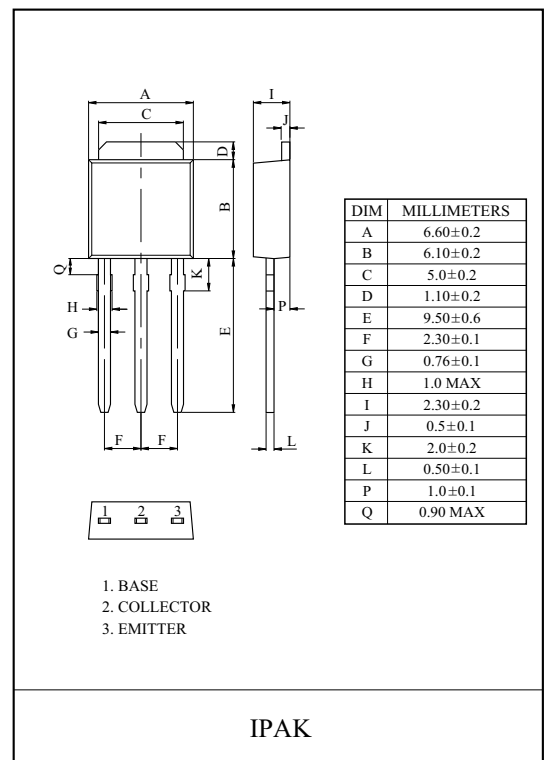
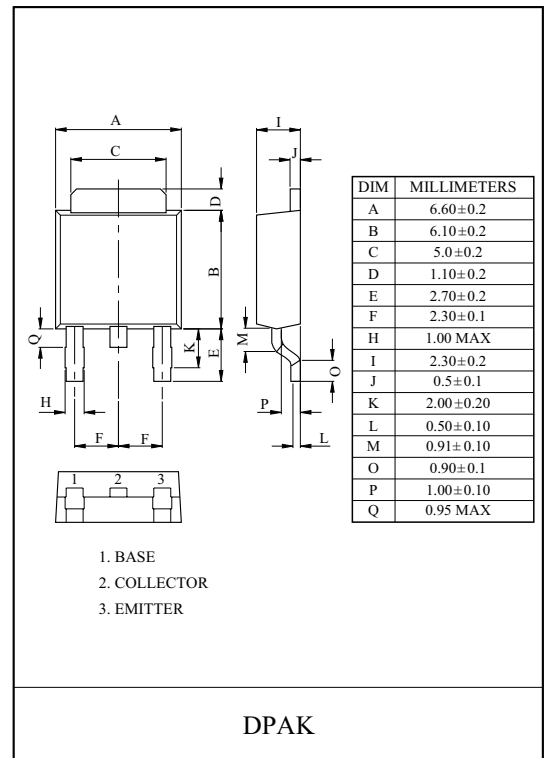
Relay drivers, high-speed inverters, converters, and other general high-current switching applications.

### 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.  
:  $f_T=20\text{nS (Typ.)}$
- Complementary to KTA1204D/L

### MAXIMUM RATING (Ta=25 °C)

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



# KTC1804D/L

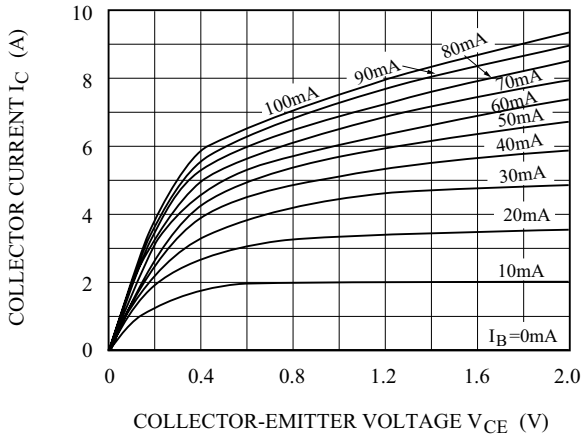
## ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=40V, I_E=0$	-	-	1	$\mu A$	
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=4V, I_C=0$	-	-	1	$\mu A$	
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	$t_{on}$	<p style="text-align: center;"><math>I_{B1} = -I_{B2} = 0.4A</math> DUTY CYCLE <math>\leq 1\%</math></p>	-	50	-	nS
	Storage Time	$t_{stg}$		-	500	-	
	Fall Time	$t_f$		-	20	-	

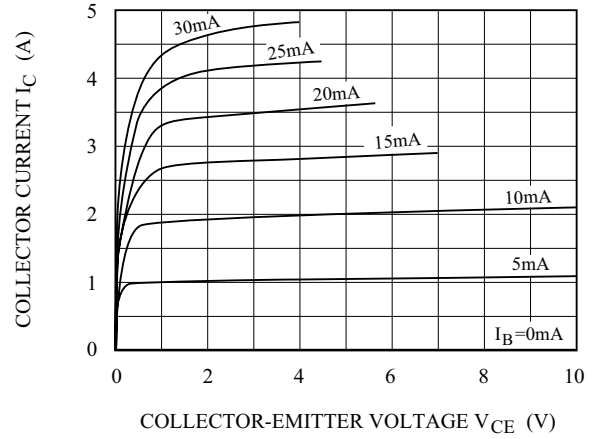
Note :  $h_{FE}$  Classification O:100~200, Y:140~280, GR:200~400.

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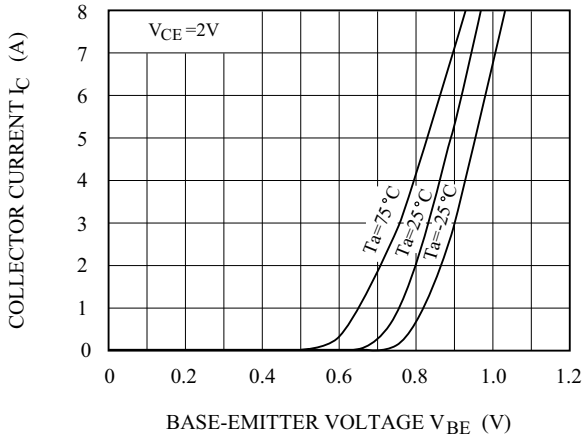
$I_C - V_{CE}$



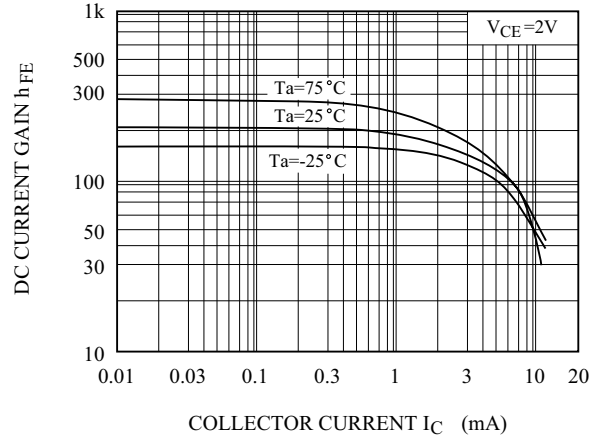
$I_C - V_{CE}$



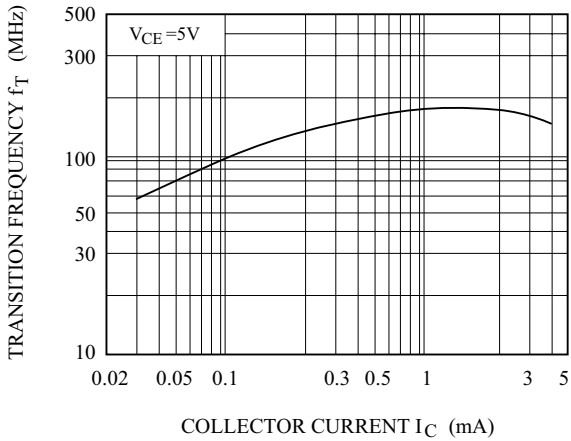
$I_C - V_{BE}$



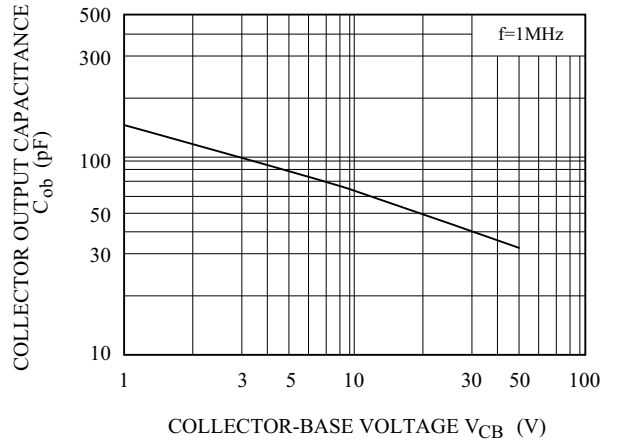
$h_{FE} - I_C$



$f_T - I_C$



$C_{ob} - V_{CB}$



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