

VOLTAGE REGULATOR, RELAY,  
LAMP DRIVER, INDUSTRIAL USE

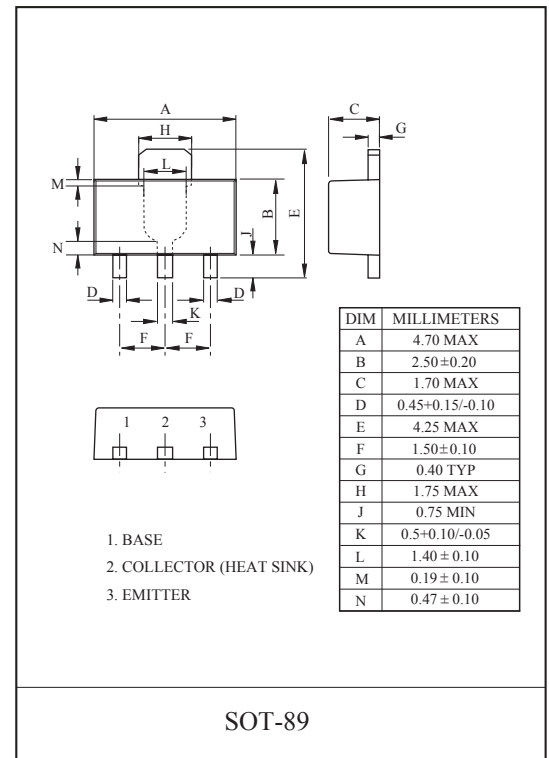
### FEATURES

- High Voltage :  $V_{CEO}=60V(\text{Min.})$ .
- High Current :  $I_C(\text{Max.})=1A$ .
- High Transition Frequency :  $f_T=150\text{MHz}(\text{Typ.})$ .
- Wide Area of Safe Operation.
- Complementary to KTA1668.
- Suffix U : Qualified to AEC-Q101.  
ex) KTC4378-Y-RTF/PU

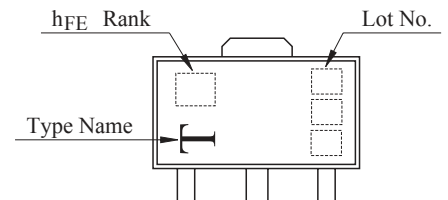
### MAXIMUM RATING (Ta=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		$V_{CBO}$	80	V
Collector-Emitter Voltage		$V_{CEO}$	60	V
Emitter-Base Voltage		$V_{EBO}$	5	V
Collector Current	DC	$I_C$	1	A
	Pulse	$I_{CP}$	2	
Collector Power Dissipation		$P_C$	500	mW
		$P_C^*$	1	W
Thermal Resistance		$R_{th(j-c)}$	20	°C/W
Junction Temperature		$T_j$	150	°C
Storage Temperature Range		$T_{stg}$	-55 ~ 150	°C

$P_C^*$  : Package mounted on ceramic substrate (250mm<sup>2</sup>x0.8t)



### Marking



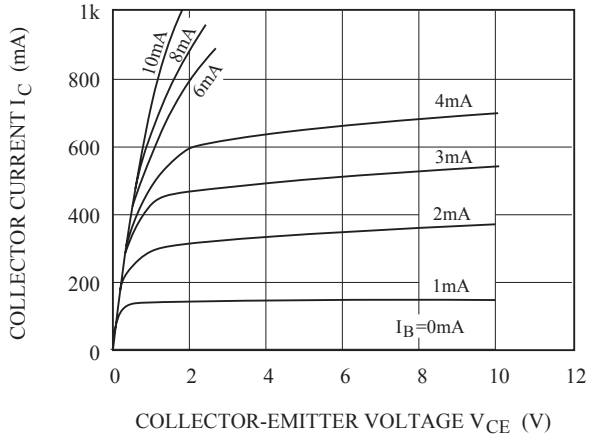
### ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=50V, I_E=0$	-	-	100	nA
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=4V, I_C=0$	-	-	100	nA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=2V, I_C=50mA$	120	-	320	
	$h_{FE(2)}$	$V_{CE}=2V, I_C=1A$	30	-	-	
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	60	-	-	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=50mA$	-	0.15	0.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=500mA, I_B=50mA$	-	0.85	1.2	V
Transition Frequency	$f_T$	$V_{CE}=10V, I_C=50mA$	-	150	-	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB}=10V, f=1MHz$	-	12	-	pF

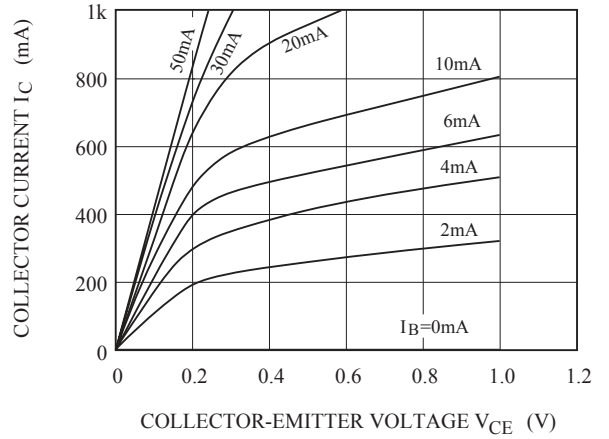
Note :  $h_{FE(1)}$  Classification    Y:120~200, GR:160~320

# KTC4378

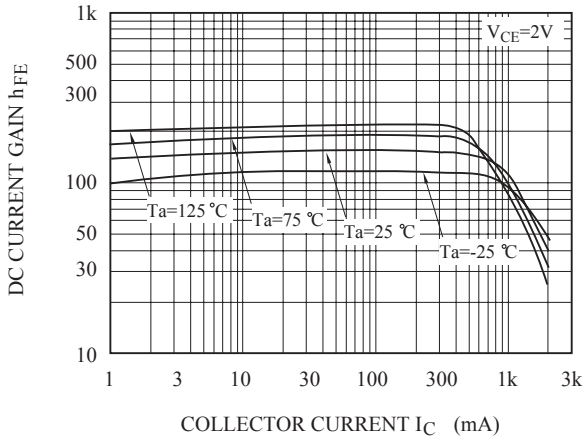
$I_C - V_{CE}$



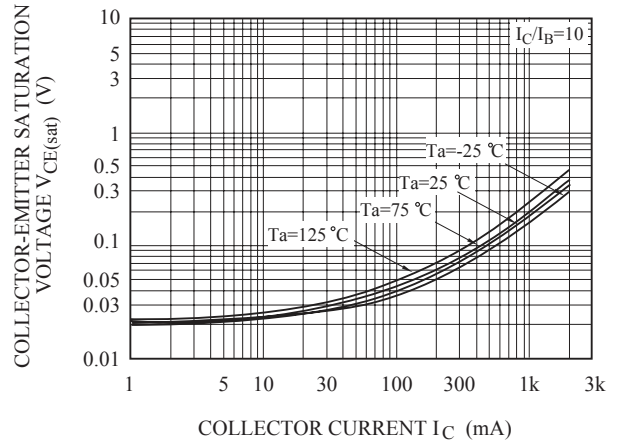
$I_C - V_{CE}$



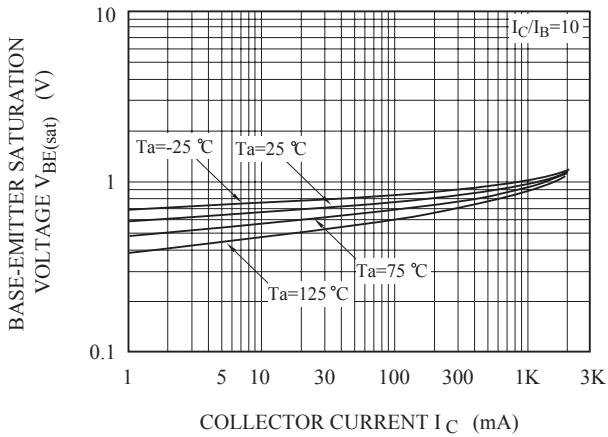
$h_{FE} - I_C$



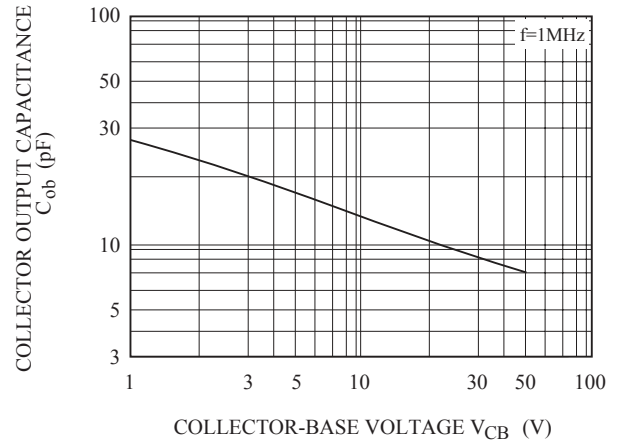
$V_{CE(sat)} - I_C$



$V_{BE(sat)} - I_C$

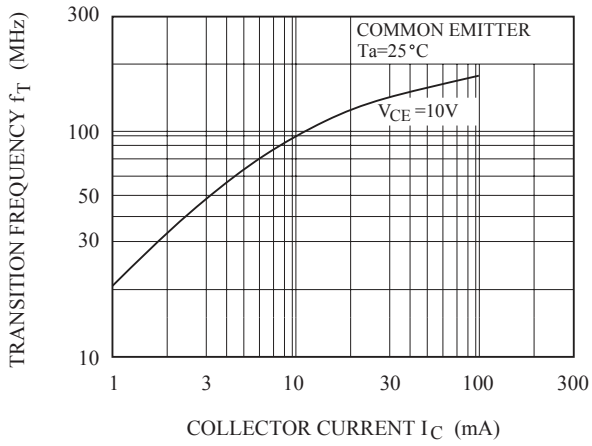


$C_{ob} - V_{CB}$

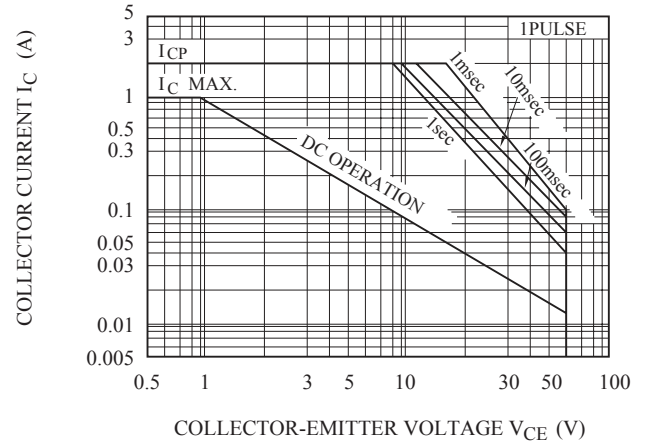


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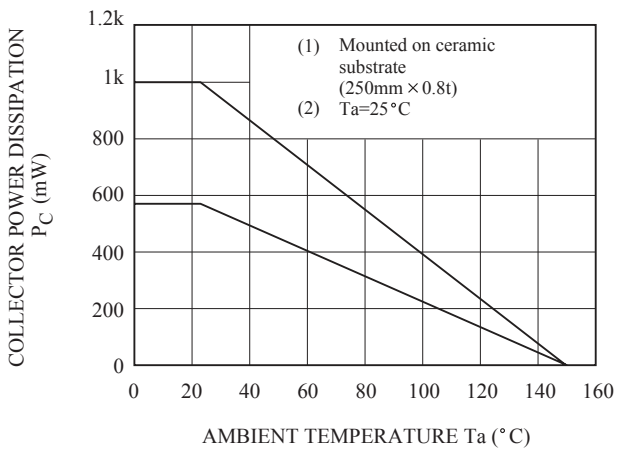
$f_T - I_C$



SAFE OPERATING AREA



$P_c - T_a$



## PRECAUTION ON USING KEC PRODUCTS

1. The products described in this data are intended to be used in general-purpose electronic equipment (Office equipment, telecommunication equipment, measuring equipment, home appliances)
2. When you intend to use these products with equipment or device which require an extremely high of reliability and special applications (such as automobile, air travel aerospace, transportation equipment, life support, system and safety devices) in which special quality and reliability and the failure or malfunction of products may directly jeopardize or harm the human body or damage to property and any application other than the standard application intended, please be sure to consult with our sales representative in advance.
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