

VOLTAGE REGULATOR, RELAY,  
LAMP DRIVER, INDUSTRIAL USE

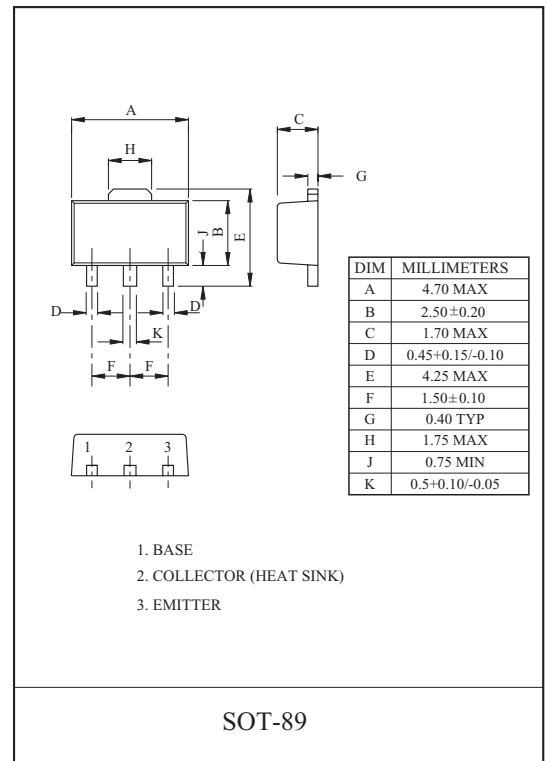
### FEATURES

- 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.

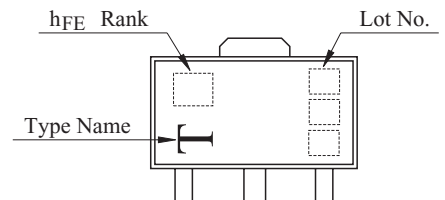
### MAXIMUM RATING ( $T_a=25^\circ\text{C}$ )

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
Junction Temperature		$T_j$	150	$^\circ\text{C}$
Storage Temperature Range		$T_{stg}$	-55 ~ 150	$^\circ\text{C}$

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



### Marking



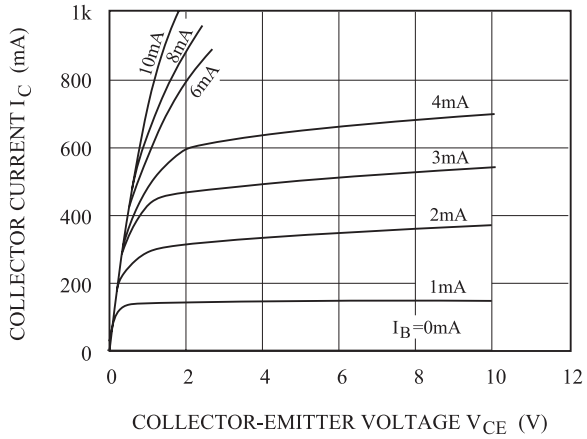
### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$ )

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	$h_{FE}(1)$	$V_{CE}=2V, I_C=50\text{mA}$	120	-	320	
	$h_{FE}(2)$	$V_{CE}=2V, I_C=1A$	30	-	-	
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	60	-	-	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$	-	0.15	0.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$	-	0.85	1.2	V
Transition Frequency	$f_T$	$V_{CE}=10V, I_C=50\text{mA}$	-	150	-	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB}=10V, f=1\text{MHz}$	-	12	-	pF

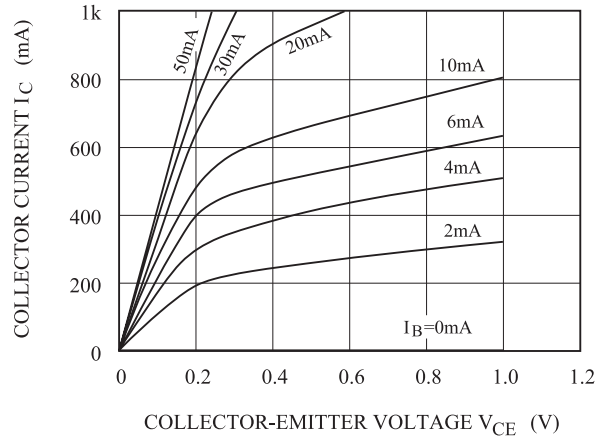
Note :  $h_{FE}(1)$  Classification    Y:120 ~ 200,    GR:160 ~ 320

# KTC4378

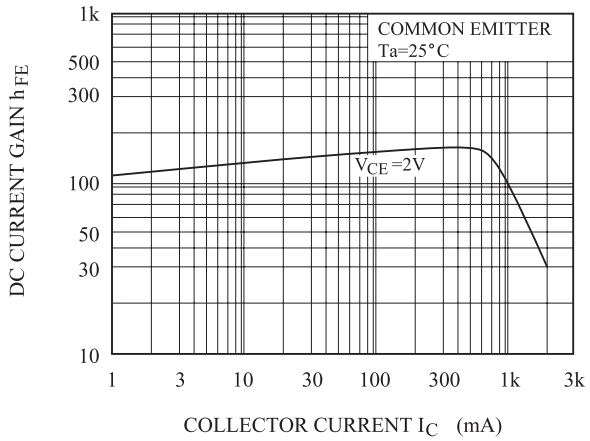
$I_C - V_{CE}$



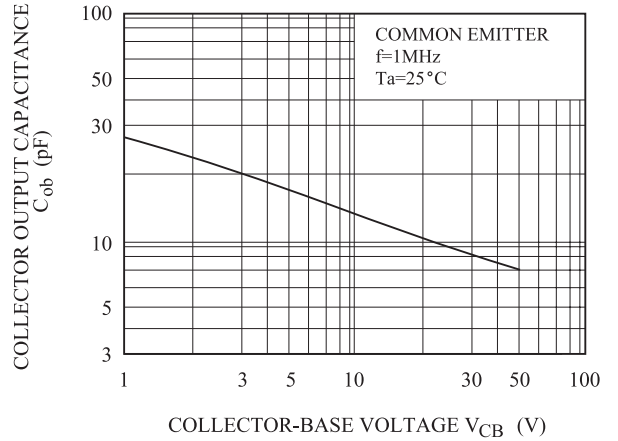
$I_C - V_{CE}$



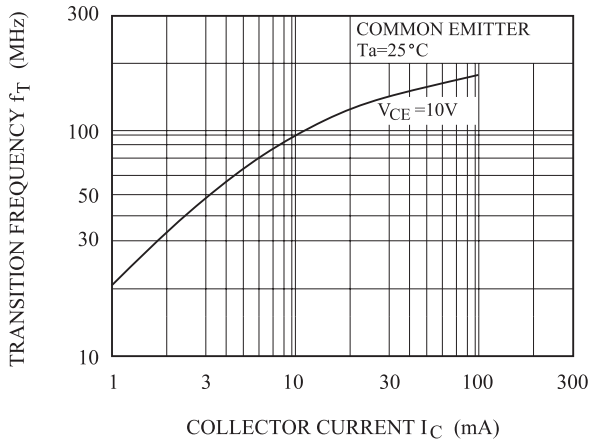
$h_{FE} - I_C$



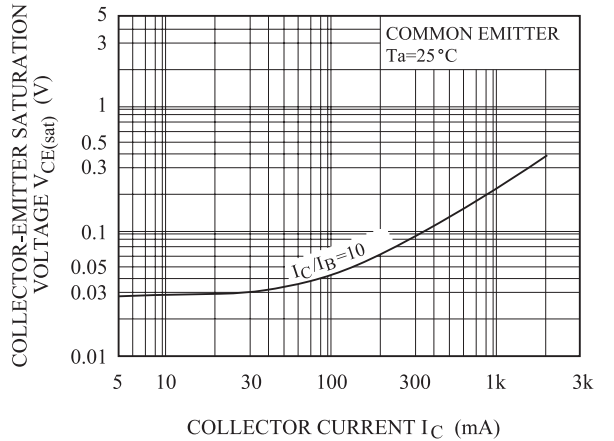
$C_{ob} - V_{CB}$



$f_T - I_C$

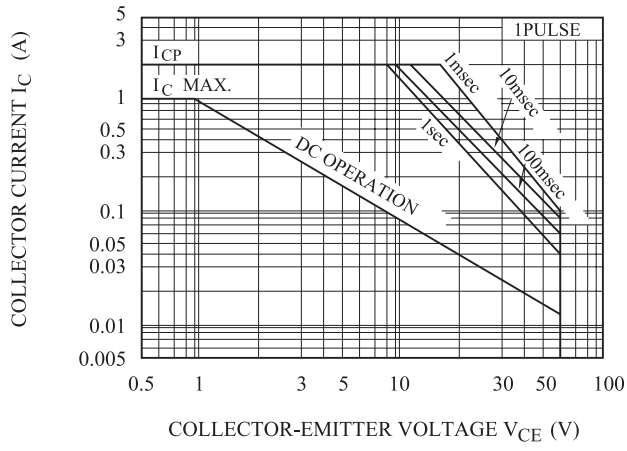


$V_{CE(sat)} - I_C$



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SAFE OPERATING AREA



$P_c - T_a$

