

## TO-92L Plastic-Encapsulate Transistors

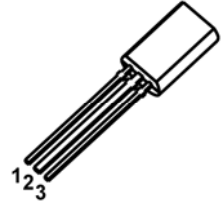
### KTC3228 TRANSISTOR (NPN)

#### FEATURES

- High Voltage
- Large Collector Current Capability
- Complementary to KTA1275

#### TO - 92L

1. EMITTER
2. COLLECTOR
3. BASE



#### MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	160	V
$V_{CEO}$	Collector-Emitter Voltage	160	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current	1	A
$P_C$	Collector Power Dissipation	0.9	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	139	$^\circ\text{C/W}$
$T_j$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~+150	$^\circ\text{C}$

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=1\text{mA}, I_E=0$	160			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}, I_B=0$	160			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=1\text{mA}, I_C=0$	6			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=150\text{V}, I_E=0$			1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=6\text{V}, I_C=0$			1	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE}=5\text{V}, I_C=200\text{mA}$	60		320	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$			1.5	V
Base-emitter voltage	$V_{BE}$	$V_{CE}=5\text{V}, I_C=5\text{mA}$	0.45		0.75	V
Collector output capacitance	$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$			20	pF
Transition frequency	$f_T$	$V_{CE}=5\text{V}, I_C=200\text{mA}$	20			MHz

#### CLASSIFICATION OF $h_{FE}$

RANK	R	O	Y
RANGE	60-120	100-200	160-320