

## TO-220-3L Plastic-Encapsulate Transistors

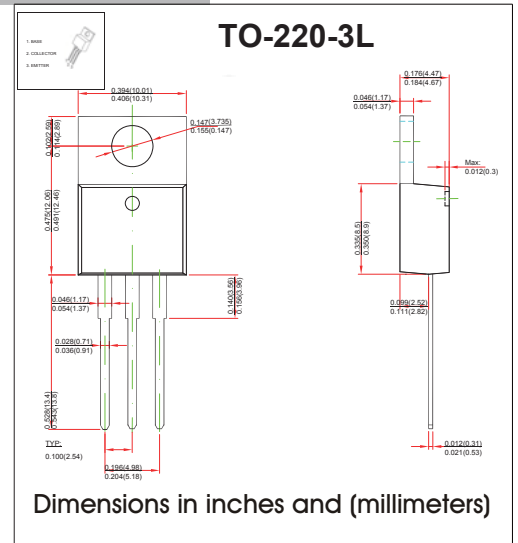
### FEATURES

- High DC Current Gain
- Low Collector to Emitter Saturation Voltage  $V_{CE(sat)}$
- Allowing Automatic Insertion with Radial Taping

• TRANSISTOR (NPN)

### MECHANICAL DATA

- Case style: TO-220-3L molded plastic
- Mounting position: any



### MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	80	V
$V_{CEO}$	Collector-Emitter Voltage	80	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current	3	A
$P_C$	Collector Power Dissipation	2	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	63	°C/W
$T_j$	Junction Temperature	150	°C
$T_{stg}$	Storage Temperature	-55~+150	°C

#### PACKAGE INFORMATION

Device	Package	Shipping
2SD2137A	TO-220-3L	50/Tape&Reel

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	80			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=30mA, I_B=0$	80			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	6			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=80V, I_E=0$			100	$\mu A$
Collector cut-off current	$I_{CEO}$	$V_{CE}=60V, I_B=0$			100	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=6V, I_C=0$			100	$\mu A$
DC current gain	$h_{FE(1)}$	$V_{CE}=4V, I_C=1A$	70		320	
	$h_{FE(2)}$	$V_{CE}=4V, I_C=3A$	10			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=3A, I_B=0.375A$			1.2	V
Base-emitter voltage	$V_{BE}$	$V_{CE}=4V, I_C=3A$			1.8	V
Transition frequency	$f_T$	$V_{CE}=5V, I_C=0.2A, f=10MHz$		30		MHZ

#### CLASSIFICATION OF $h_{FE(1)}$

RANK	Q	P	O
RANGE	70-150	120-250	160-320