



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

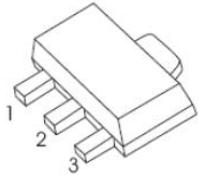
## SOT-89-3L Plastic-Encapsulate Transistors

**2SD2153** TRANSISTOR (NPN)**FEATURES**

- Low saturation voltage
- Excellent DC current gain characteristics

**MARKING: DN****SOT-89-3L**

1. BASE
2. COLLECTOR 1
3. Emitter 2

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

Symbol	Parameter	Value	Unit
$V_{\text{CBO}}$	Collector -Base Voltage	30	V
$V_{\text{CEO}}$	Collector-Emitter Voltage	25	V
$V_{\text{EBO}}$	Emitter-Base Voltage	6	V
$I_c$	Continuous Collector Current	2	A
$I_{CP}$	Pulsed Collector Current	3	A
$P_c$	Collector Dissipation	0.5	W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	250	$^\circ\text{C}/\text{W}$
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{\text{stg}}$	Storage Temperature	-55~+150	$^\circ\text{C}$

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

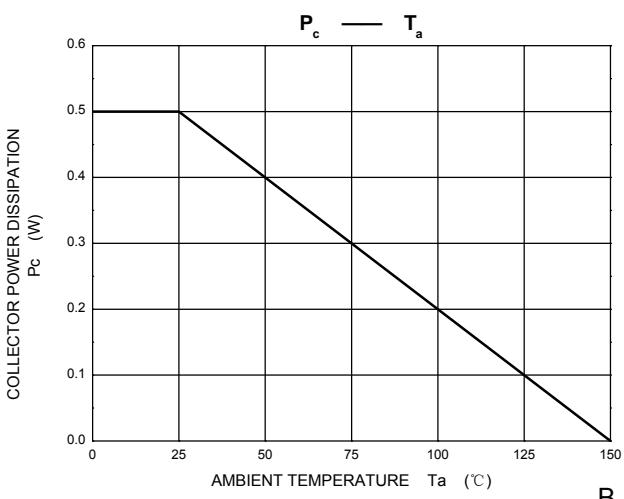
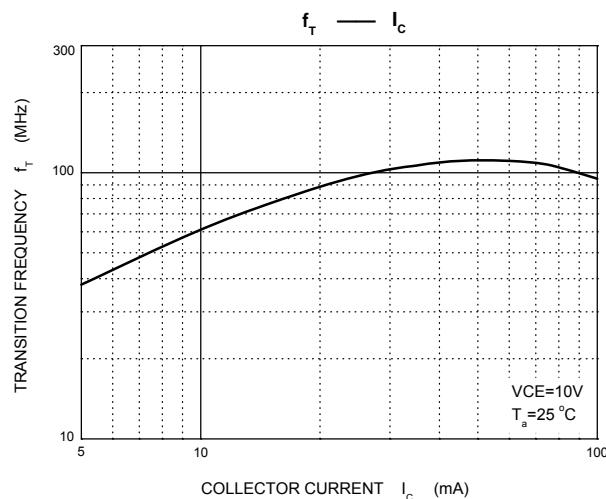
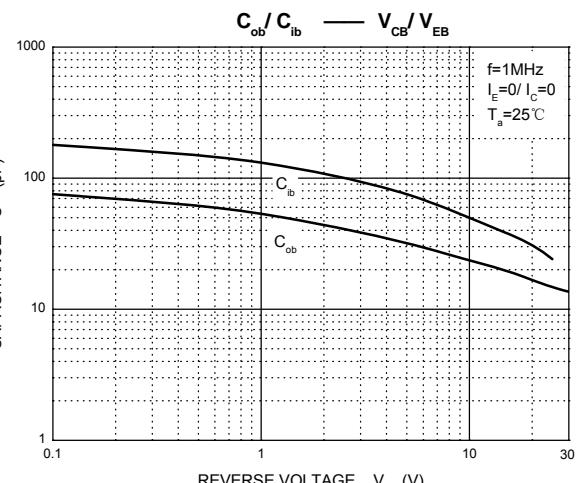
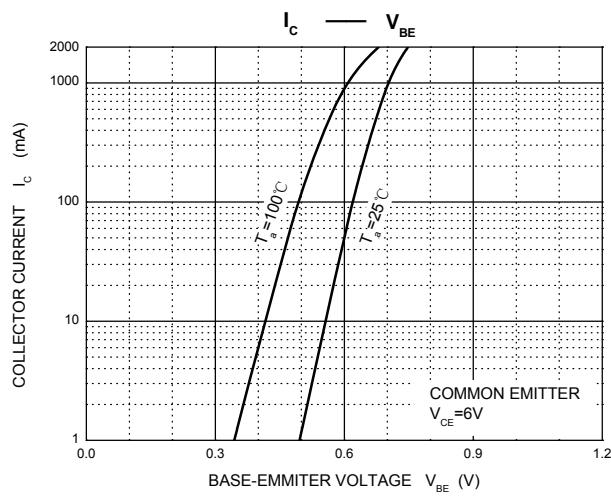
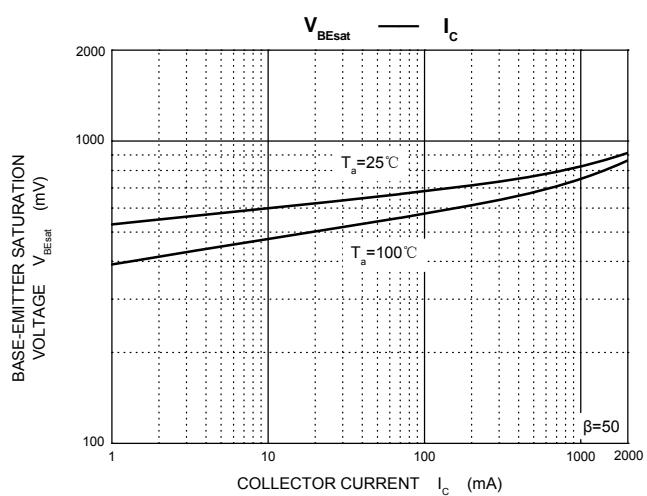
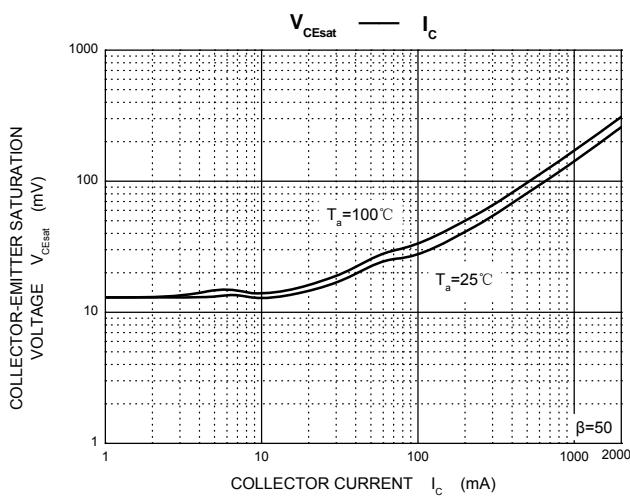
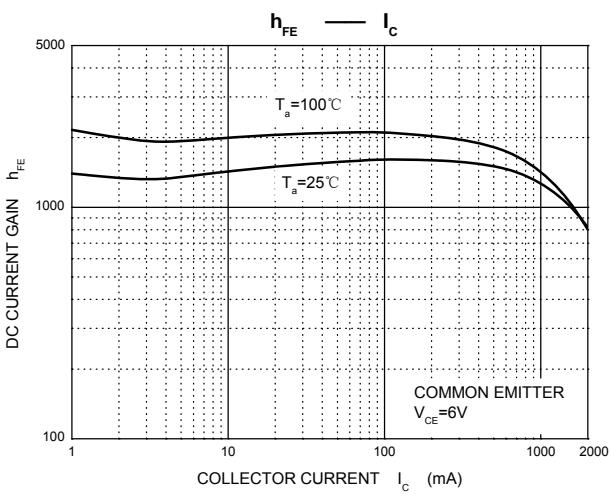
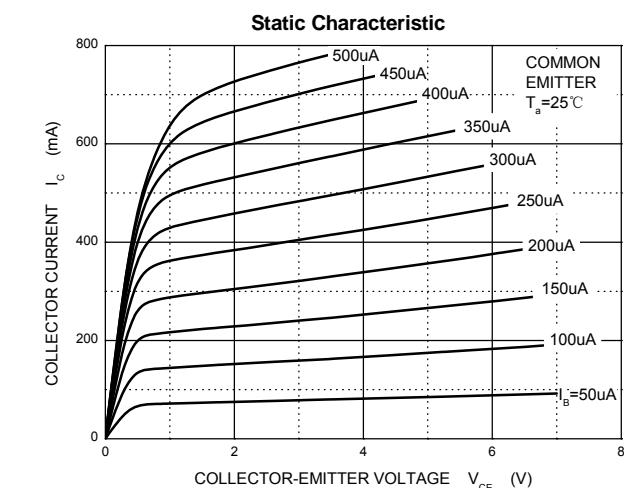
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	$I_C=50\mu\text{A}, I_E=0$	30			V
Collector-emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	$I_C=1\text{mA}, I_B=0$	25			V
Emitter-base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	$I_E=50\mu\text{A}, I_C=0$	6			V
Collector cut-off current	$I_{\text{CBO}}$	$V_{\text{CB}}=20\text{V}, I_E=0$			0.5	$\mu\text{A}$
Emitter cut-off current	$I_{\text{EBO}}$	$V_{\text{EB}}=5\text{V}, I_C=0$			0.5	$\mu\text{A}$
DC current gain	$h_{\text{FE}}$	$V_{\text{CE}}=6\text{V}, I_C=500\text{mA}$	560		2700	
Collector-emitter saturation voltage	$V_{\text{CE}(\text{sat})}^*$	$I_C=1\text{A}, I_B=20\text{mA}$			0.5	V
Transition frequency	$f_T$	$V_{\text{CE}}=10\text{V}, I_C=10\text{mA}, f=100\text{MHz}$		110		MHz
Collector capacitance	$C_{\text{ob}}$	$V_{\text{CB}}=10\text{V}, I_E=0, f=1\text{MHz}$		22		pF

\*Single pulse,  $P_W=10\text{ms}$ **CLASSIFICATION OF  $h_{\text{FE}}$** 

Rank	U	V	W
Range	560~1200	820~1800	1200~2700

# Typical Characteristics

2SD2153



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