

2SA1012

Plastic-Encapsulate Transistors (PNP)

Features

- High Current Switching Applications.
- Low Collector Saturation Voltage
- High Speed Switching Time
- RoHS compliant package
- Case : TO-252

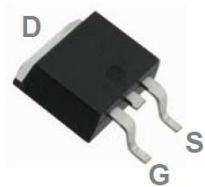
Applications

- High speed switching

Packing & Order Information

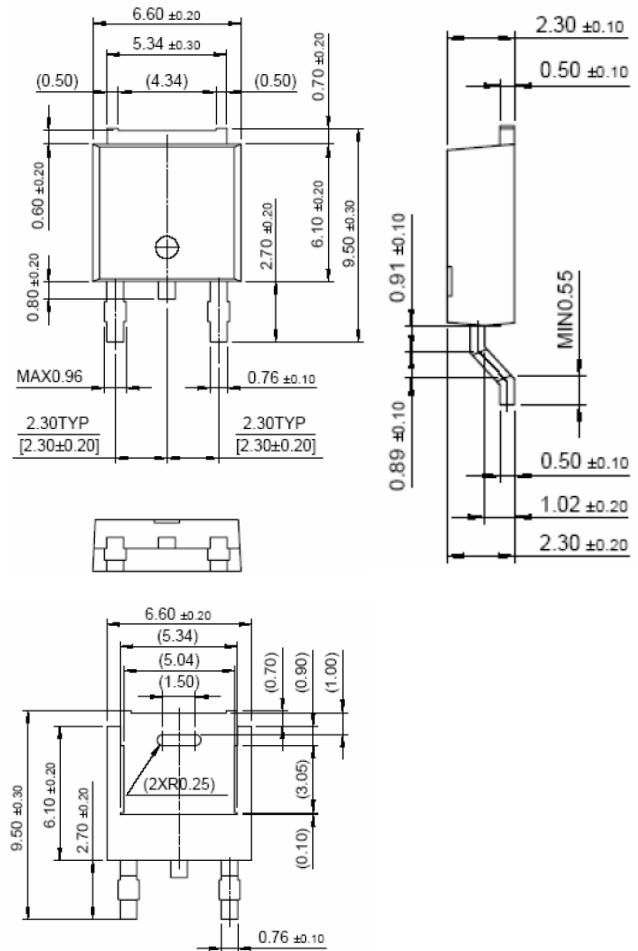
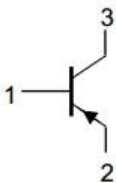
Part No./T : 2,500/Reel

Part No./R : 80/Tube , 4,000/Box



**RoHS
COMPLIANT**

Graphic symbol



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

MAXIMUM RATING @ $T_a=25^\circ\text{C}$ unless otherwise specified

Symbol	Parameter	Value	Unit
V_{CB0}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-5	A
P_C	Collector Dissipation	1.25	W
$R_{\theta JA}$	Thermal resistance junction to ambient	100	$^\circ\text{C/W}$
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55 to +150	$^\circ\text{C}$

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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Symbol	Parameter	Test Conditions	MIN	TYP	MAX	UNIT
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C = -0.1\text{mA}$, $I_E = 0$	-60			V
$V_{(BR)CEO}^*$	Collector-emitter breakdown voltage	$I_C = -10\text{mA}$, $I_B = 0$	-50			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E = -10\mu\text{A}$, $I_C = 0$	-5			V
I_{CBO}	Collector cut-off current	$V_{CB} = -50\text{V}$, $I_E = 0$			-1	μA
I_{EBO}	Emitter cut-off current	$V_{EB} = -5\text{V}$, $I_C = 0$			-1	μA
$h_{FE(1)}$	DC current gain	$V_{CE} = -1\text{V}$, $I_C = -1\text{A}$	70		240	
$h_{FE(2)}^*$		$V_{CE} = -1\text{V}$, $I_C = -3\text{A}$	30			
$V_{CE(sat)}^*$	Collector-emitter saturation voltage	$I_C = -3\text{A}$, $I_B = -150\text{mA}$			-0.4	V
$V_{BE(sat)}^*$	Base-emitter saturation voltage	$I_C = -3\text{A}$, $I_B = -150\text{mA}$			1.2	V
f_r	Transition frequency	$V_{CE} = -4\text{V}$, $I_C = -1\text{A}$		60		MHz
C_{ob}	Collector output capacitance	$V_{CB} = -10\text{V}$, $I_E = 0$ $f = 1.0\text{MHz}$		170		pF
t_{on}	Turn-on Time	$V_{CC} = -30\text{V}$, $I_C = -3\text{A}$ $I_{B1} = -I_{B2} = -0.15\text{A}$		0.1		μs
t_s	Storage time			1.0		
t_f	Fall time			0.1		

*Pulse test: $t_p \leq 300\mu\text{s}$, $\delta \leq 0.02$.

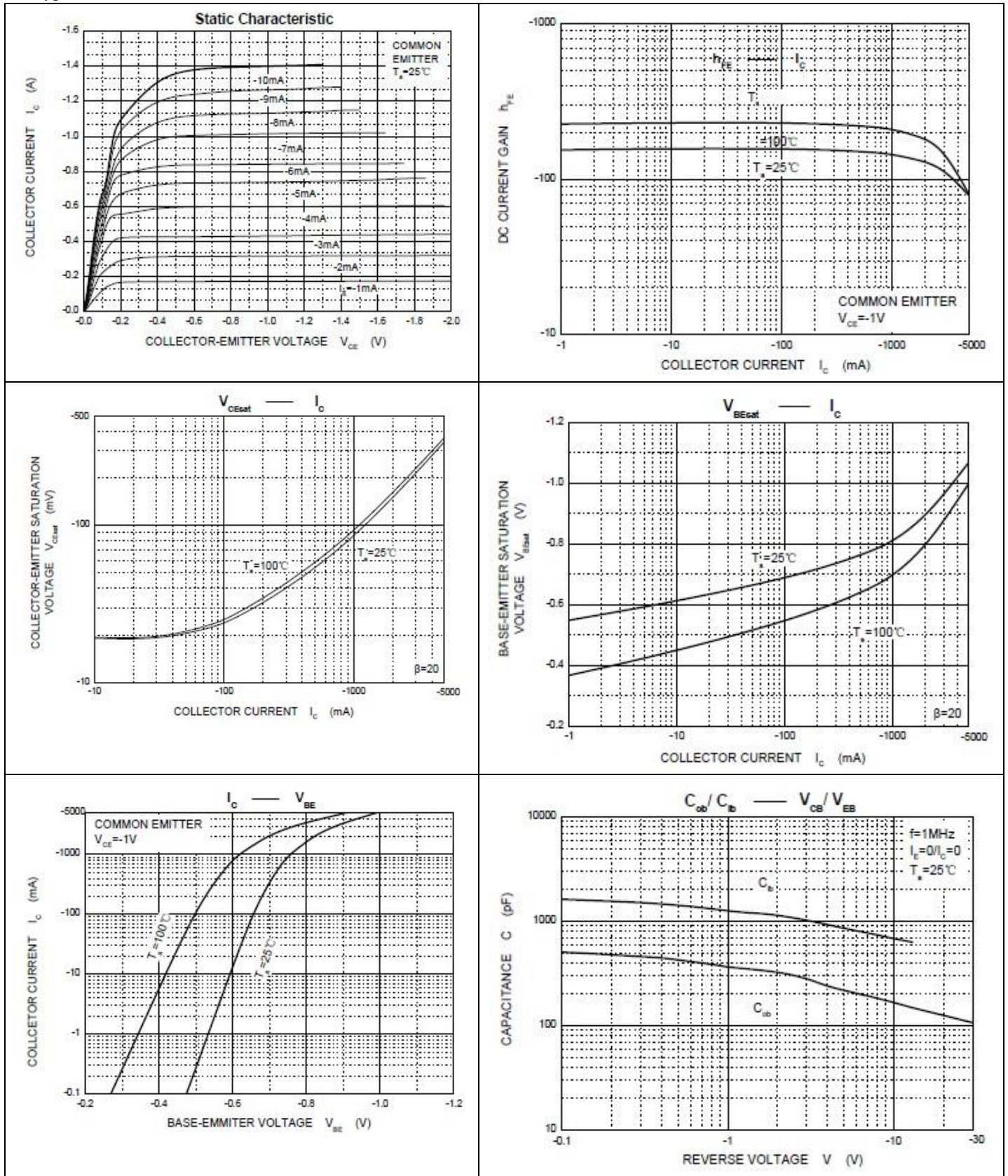
CLASSIFICATION of $h_{FE(1)}$

Rank	O	Y
Range	70-140	120-240

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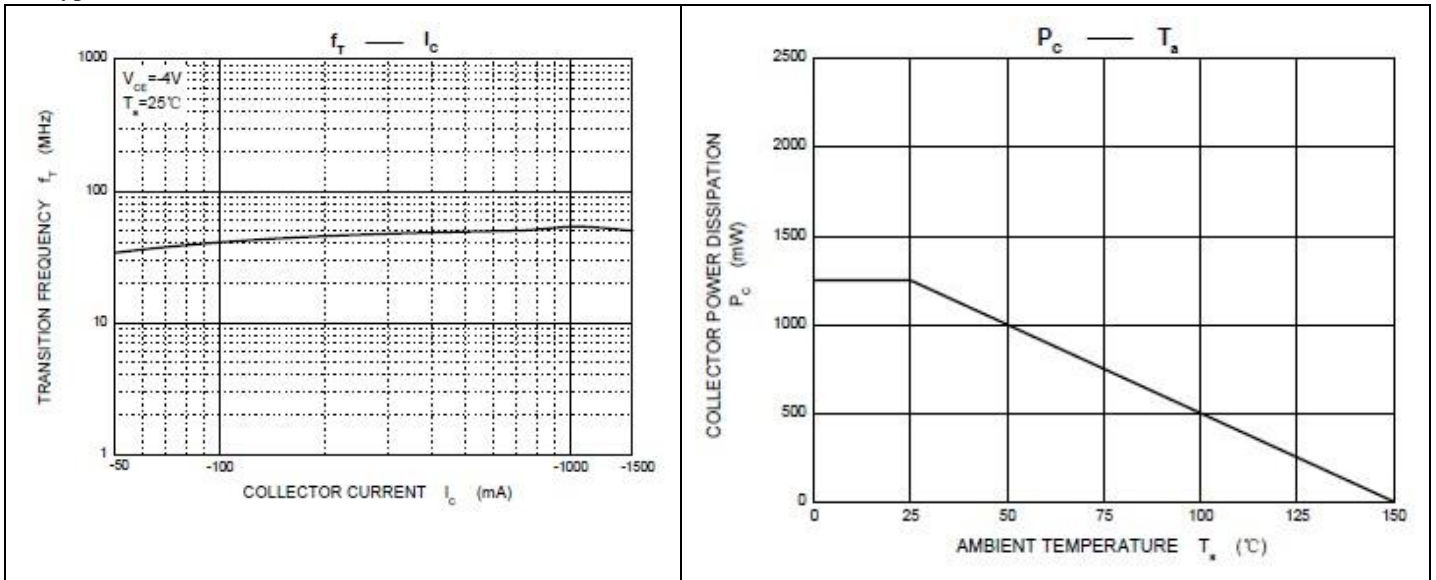
■ Typical Characteristics



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