

2SA1012

Plastic-Encapsulate Transistors (PNP)

Features

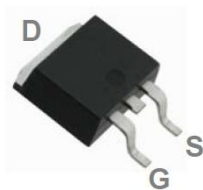
- High Current Switching Applications.
- Low Collector Saturation Voltage
- High Speed Switching Time
- RoHS compliant package

Applications

- High speed switching

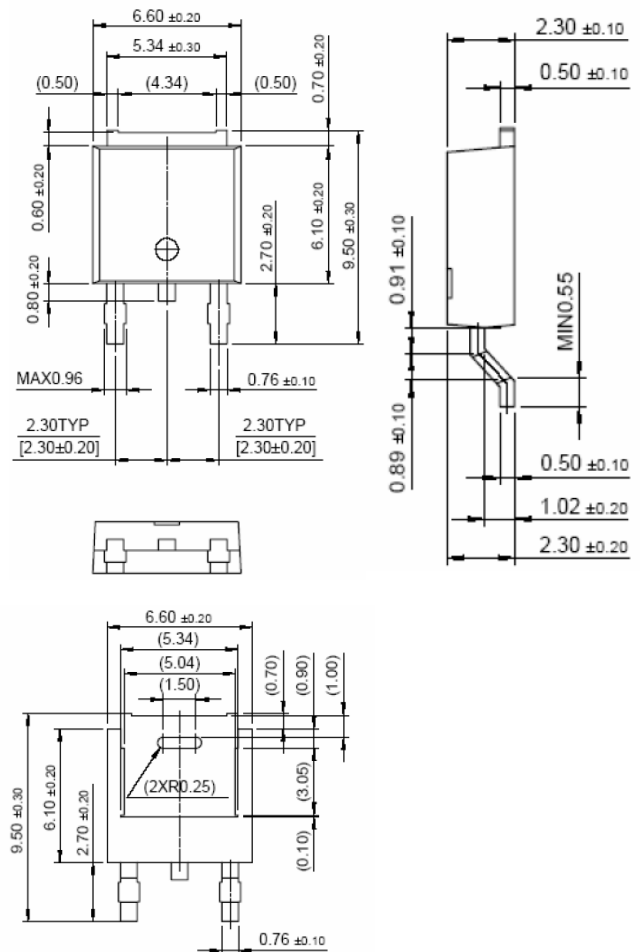
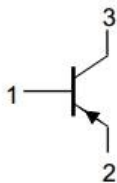
Packing & Order Information

3,000/Reel



**RoHS
COMPLIANT**

Graphic symbol



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Unit
V _{CBO}	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 _{θJA}	Thermal resistance junction to ambient	100	°C/W
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature Range	-55 to +150	°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	$I_C = -0.1mA, I_E = 0$	-60			V
$V_{(BR)CEO}^*$	Collector-emitter breakdown voltage	$I_C = -10mA, I_B = 0$	-50			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E = -10\mu A, I_C = 0$	-5			V
I_{CBO}	Collector cut-off current	$V_{CB} = -50 V, I_E = 0$			-1	μA
I_{EBO}	Emitter cut-off current	$V_{EB} = -5 V, I_C = 0$			-1	μA
$h_{FE(1)}$	DC current gain	$V_{CE} = -1 V, I_C = -1 A$	70		240	
$h_{FE(2)}^*$		$V_{CE} = -1 V, I_C = -3 A$	30			
$V_{CE(sat)}^*$	Collector-emitter saturation voltage	$I_C = -3 A, I_B = -150mA$			-0.4	V
$V_{BE(sat)}^*$	Base-emitter saturation voltage	$I_C = -3 A, I_B = -150mA$			1.2	V
f_T	Transition frequency	$V_{CE} = -4 V, I_C = -1 A$		60		MHz
C_{ob}	Collector output capacitance	$V_{CB} = -10 V, I_E = 0$ $f = 1.0MHz$		170		pF
t_{on}	Turn-on Time	$V_{CC} = -30 V, I_C = -3 A$ $I_{B1} = -I_{B2} = -0.15 A$		0.1		μs
t_s	Storage time			1.0		
t_f	Fall time			0.1		

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

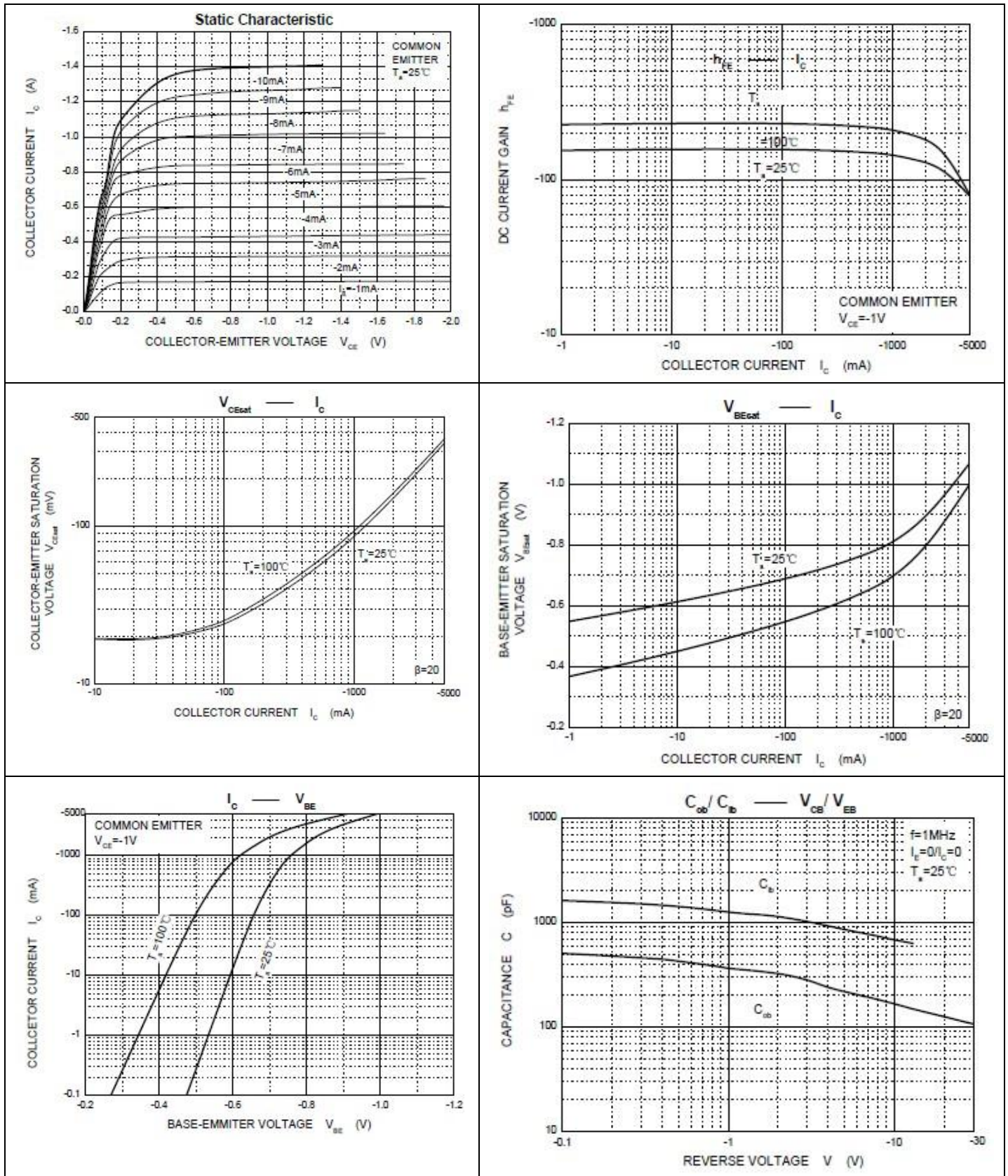
CLASSIFICATION of $h_{FE(1)}$

Rank	O	Y
Range	70-140	120-240

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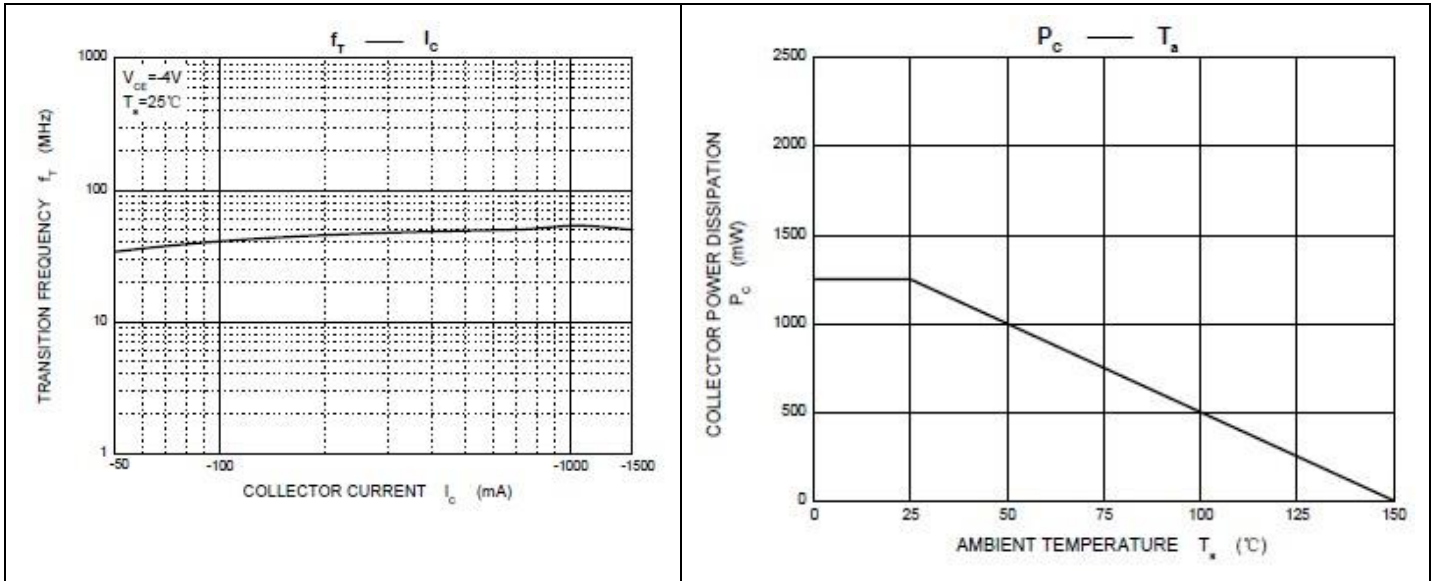
■ Typical Characteristics



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