



Over 150 million die shipped per year

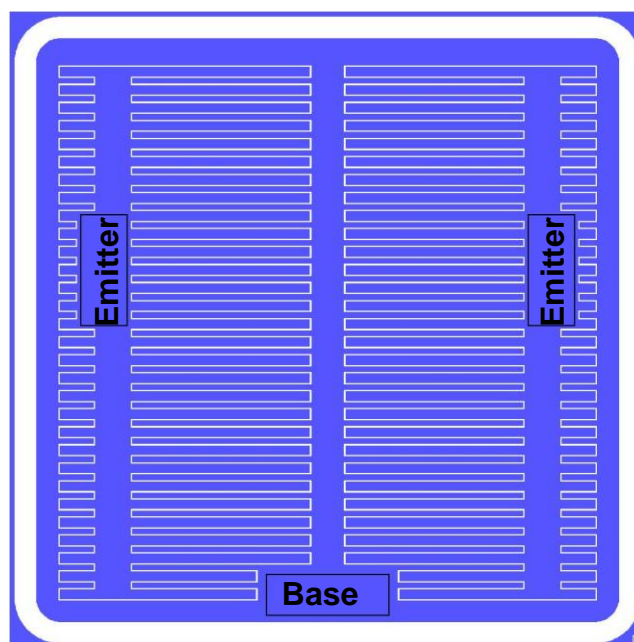
# G171 Chip Family

## NPN Bipolar

DESCRIPTION	FEATURES
<p>The G171 chip family is an NPN bipolar multi-epitaxial planar transistor using SEMEFAB's ADVANCED DISTRIBUTED BASE TECHNOLOGY for improved performance over full temperature range.</p>	<ul style="list-style-type: none"> <li>• HIGH CURRENT - UP TO 50 AMPS</li> <li>• HIGH VOLTAGE - UP TO 1200 VOLTS (<math>V_{CBO}</math>)</li> <li>• VERY FAST SWITCHING (<math>t_f = 50ns</math>)</li> <li>• IMPROVED PERFORMANCE OVER FULL TEMPERATURE RANGE                             <ul style="list-style-type: none"> <li>○ HIGH GAIN AT LOW TEMPERATURES</li> <li>○ FAST SWITCHING AT HIGH TEMPERATURES</li> </ul> </li> </ul>

### 1.0 PHYSICAL FEATURES

DIE SIZE	275 mils x 275 mils
DIE THICKNESS	550 micron
FRONT METALLISATION	5 micron Aluminium
BACK METALLISATION	0.6 micron Aluminium/Titanium/Nickel/Gold
BOND PAD SIZE	
Emitter	20 mils x 48 mils
Base	18 mils x 53 mils





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### 2.0 TYPICAL CHARACTERISTICS

	G271	GB71	GC71	Unit
$V_{CBO}$	600	900	1200	V
$V_{CEO}$	285	550	650	V
$I_C$	50	25	15	A
Similar to	BUL47B	BUL46B	BUL46A	

### 3.0 PROBED ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ )

Symbol	Parameter	Test Conditions	Type	Min	Typ	Max	Unit
$V_{CEO}$	Collector - Emitter Breakdown Voltage	$I_C = 1\text{mA}$ $I_B = 0$	GC71	600	650		V
			GB71	460	550		
			G271	280	285		
$I_{CES}$	Collector Cut-Off Current	$V_{CEO} = 600\text{V}$ $V_{CEO} = 460\text{V}$ $V_{CEO} = 280\text{V}$	GC71			1	mA
			GB71				
			G271				
$I_{EBO}$	Emitter-Base Cut-Off Current	$V_{EB} = 11\text{V}$ $I_C = 0$	ALL			1	mA
$h_{fe}$	DC Current Gain	$I_C = 1\text{A}$ $V_{CE} = 5\text{V}$	GC71	20		45	
			GB71				
			G271	40		90	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=1\text{A}$ $I_B=0.1\text{A}$	ALL			0.15	V



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Semefab Ltd. may change this specification at any time without notification.

Supply of products conforms to Semefab Ltd.'s Terms and Conditions.

#### **LIFE SUPPORT APPLICATIONS**

This product is not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury.

Semefab Ltd. customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Semefab Ltd. for any damages resulting from such improper use or sale.