



Over 150 million die shipped per year

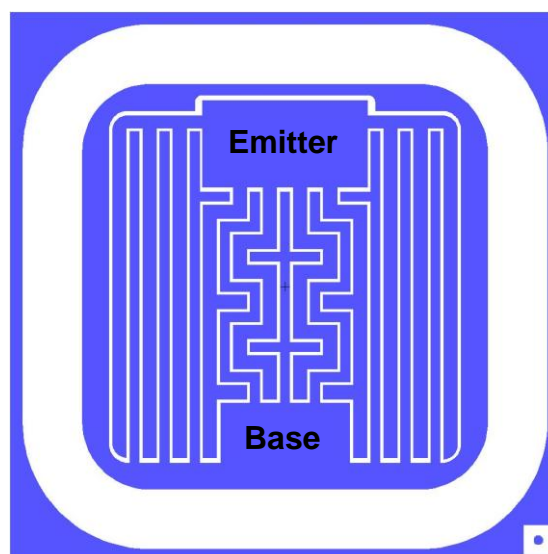
G177 Chip Family

NPN Bipolar

DESCRIPTION	FEATURES
<p>The G177 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"> • HIGH CURRENT - UP TO 10 AMPS • HIGH VOLTAGE - UP TO 1200 VOLTS (V_{CBO}) • VERY FAST SWITCHING ($t_f = 35ns$) • IMPROVED PERFORMANCE OVER FULL TEMPERATURE RANGE <ul style="list-style-type: none"> ○ HIGH GAIN AT LOW TEMPERATURES ○ FAST SWITCHING AT HIGH TEMPERATURES

1.0 PHYSICAL FEATURES

DIE SIZE	90 mils x 90 mils
DIE THICKNESS	550 micron
FRONT METALLISATION	5 micron Aluminium
BACK METALLISATION	0.6 micron Aluminium/Titanium/Nickel/Gold
BOND PAD SIZE	
Emitter	13 mils x 24 mils
Base	12 mils x 18 mils





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2.0 TYPICAL CHARACTERISTICS

	G577	G677	G377	G277	GB77	GC77	Unit
V_{CBO}	200	250	400	600	900	1200	V
V_{CEO}	85	120	200	285	550	650	V
I_C	10	7	5	4	2	1	A
Similar to				BUL55B	BUL54B	BUL54A	

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	$I_C = 1\text{mA}$ $I_B = 0$	GC77	600	650		V
			GB77	460	550		
			G277	280	285		
			G377	179	200		
			G677	116	120		
			G577	79	85		
I_{CES}	Collector Cut-Off Current	$V_{CEO} = 600\text{V}$ $V_{CEO} = 460\text{V}$ $V_{CEO} = 280\text{V}$ $V_{CEO} = 179\text{V}$ $V_{CEO} = 116\text{V}$ $V_{CEO} = 79\text{V}$	GC77			1	mA
			GB77				
			G277				
			G377				
			G677				
			G577				
I_{EBO}	Emitter-Base Cut-Off Current	$V_{EB} = 11\text{V}$ $I_C = 0$	ALL			1	mA
hfe	DC Current Gain	$I_C = 1\text{A}$ $V_{CE} = 5\text{V}$	GC77	20		45	
			GB77				
			G277	40		90	
			G377				
			G677				
			G577				
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 1\text{A}$ $I_B = 0.1\text{A}$	ALL			0.15	V



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LIFE SUPPORT APPLICATIONS

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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.