

**CMPTA27**  
**SURFACE MOUNT**  
**NPN SILICON**  
**DARLINGTON TRANSISTOR**



[www.centrasemi.com](http://www.centrasemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMPTA27 type is a NPN Silicon Darlington Transistor manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for applications requiring extremely high gain.

**MARKING CODE: FG**



**SOT-23 CASE**

**MAXIMUM RATINGS:** ( $T_A=25^\circ\text{C}$ )

Collector-Base Voltage	$V_{CBO}$	60	V
Collector-Emitter Voltage	$V_{CES}$	60	V
Emitter-Base Voltage	$V_{EBO}$	10	V
Continuous Collector Current	$I_C$	500	mA
Power Dissipation	$P_D$	350	mW
Operating and Storage Junction Temperature	$T_J, T_{stg}$	-65 to +150	$^\circ\text{C}$
Thermal Resistance	$\theta_{JA}$	357	$^\circ\text{C/W}$

**SYMBOL**

$V_{CBO}$	60	V
$V_{CES}$	60	V
$V_{EBO}$	10	V
$I_C$	500	mA
$P_D$	350	mW
$T_J, T_{stg}$	-65 to +150	$^\circ\text{C}$
$\theta_{JA}$	357	$^\circ\text{C/W}$

**UNITS**

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

<b>SYMBOL</b>	<b>TEST CONDITIONS</b>	<b>MIN</b>	<b>MAX</b>	<b>UNITS</b>
$I_{CES}$	$V_{CE}=50\text{V}$		500	nA
$I_{CBO}$	$V_{CB}=50\text{V}$		100	nA
$I_{EBO}$	$V_{BE}=10\text{V}$		100	nA
$BV_{CES}$	$I_C=100\mu\text{A}$	60		V
$BV_{CBO}$	$I_C=100\mu\text{A}$	60		V
$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=0.1\text{mA}$		1.5	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$		2.0	V
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=10\text{mA}$	10,000		
$h_{FE}$	$V_{CE}=5.0\text{V}, I_C=100\text{mA}$	10,000		
$f_T$	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	125		MHz

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**SOT-23 CASE - MECHANICAL OUTLINE**



**LEAD CODE:**

- 1) Base
- 2) Emitter
- 3) Collector

**MARKING CODE: FG**

<b>DIMENSIONS</b>				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

R6 (3-February 2010)