CMLT6427E

ENHANCED SPECIFICATION
SURFACE MOUNT SILICON
NPN DARLINGTON TRANSISTOR

ENHANCED E SPECIFICATION

SOT-563 CASE

Central Semiconductor Corp.

www.centralsemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMLT6427E is an Enhanced Specification silicon NPN Darlington transistor. High DC current gains, coupled with a low saturation voltage, make this an excellent choice for industrial/consumer applications where operational efficiency and small size are top priority.

MARKING CODE: C64

APPLICATIONS:

- Motor drivers
- Relay drivers
- Pre-amplifier input applications
- Voltage regulator controls

FEATURES:

- High current (500mA Max)
- High DC current gain (15K Min)
- Low saturation voltage ($V_{CE(SAT)}$= 0.8V Max)
- High input impedance
- SOT-563 surface mount package

MAXIMUM RATINGS: (T_A=25°C)	**SYMBOL**		**UNITS**
♦ **Collector-Base Voltage**	**V_{CBO}**	**60**	**V**
♦ **Collector-Emitter Voltage**	**V_{CES}**	**60**	**V**
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	12	V
Continuous Collector Current	I_C	500	mA
Power Dissipation (Note 1)	P_D	350	mW
Power Dissipation (Note 2)	P_D	300	mW
Power Dissipation (Note 3)	P_D	150	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	°C
Thermal Resistance (Note 1)	Θ_{JA}	357	°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

SYMBOL	**TEST CONDITIONS**	**MIN**	**TYP**	**MAX**	**UNITS**
I_{CBO}	V_{CB}=30V			100	nA
♦ **I_{CEO}**	**V_{CE}=25V**			**100**	**nA**
I_{EBO}	V_{EB}=10V			100	nA
♦ **BV_{CBO}**	**I_C=100µA**	**60**			**V**
♦ **BV_{CES}**	**I_C=100µA**	**60**			**V**
BV_{CEO}	I_C=10mA	40			V

♦ Enhanced Specification

Notes: (1) Ceramic or aluminum core PC Board with copper mounting pad area of 4.0mm^2
(2) FR-4 Epoxy PC Board with copper mounting pad area of 4.0mm^2
(3) FR-4 Epoxy PC Board with copper mounting pad area of 1.4mm^2

R3 (29-June 2015)

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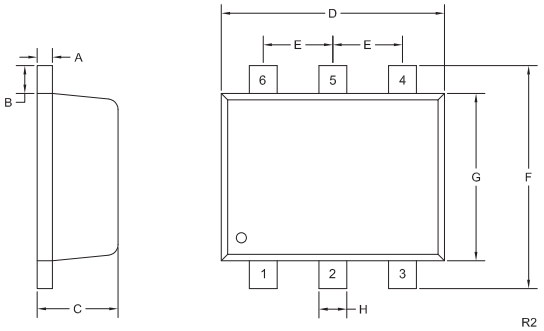
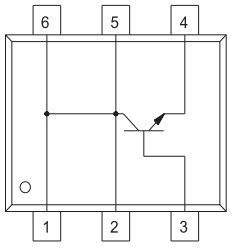
ELECTRICAL CHARACTERISTICS - Continued: (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
♦ **BV_{EBO}**	**I_E=10μA**	**14**			**V**
♦ **$V_{CE(SAT)}$**	**I_C=50mA, I_B=0.5mA**			**0.80**	**V**
$V_{CE(SAT)}$	I_C=100mA, I_B=0.1mA			0.85	V
♦ **$V_{CE(SAT)}$**	**I_C=500mA, I_B=0.5mA**			**1.0**	**V**
$V_{BE(SAT)}$	I_C=500mA, I_B=0.5mA			2.00	V
$V_{BE(ON)}$	V_{CE}=5.0V, I_C=50mA			1.75	V
♦ **h_{FE}**	**V_{CE}=5.0V, I_C=10mA**	**15K**		**100K**	
♦ **h_{FE}**	**V_{CE}=5.0V, I_C=100mA**	**25K**		**200K**	
♦ **h_{FE}**	**V_{CE}=5.0V, I_C=500mA**	**15K**		**140K**	
f_T	V_{CE}=5.0V, I_C=10mA, f=100MHz		200		MHz
C_{ob}	V_{CB}=10V, I_E=0, f=1.0MHz			7.0	pF
C_{ib}	V_{BE}=0.5V, I_C=0, f=1.0MHz			15	pF
NF	V_{CE}=5.0V, I_C=1.0mA, R_S=100kΩ, f=1.0kHz TO 15.7kHz			10	dB

♦ Enhanced Specification

SOT-563 CASE - MECHANICAL OUTLINE





DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	0.0027	0.007	0.07	0.18
B	0.008		0.20	
C	0.017	0.024	0.45	0.60
D	0.059	0.067	1.50	1.70
E	0.020		0.50	
F	0.059	0.067	1.50	1.70
G	0.043	0.051	1.10	1.30
H	0.006	0.012	0.15	0.30

SOT-563 (REV: R2)

LEAD CODE:
1) Collector
2) Collector
3) Base
4) Emitter
5) Collector
6) Collector

MARKING CODE: C64

R3 (29-June 2015)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES

PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

CONTACT US

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