

Silicon NPN Darlington Power Transistors

2SD2438

DESCRIPTION

- With TO-3PML package
- Complement to type 2SB1587

APPLICATIONS

- Audio, series regulator and general purpose

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

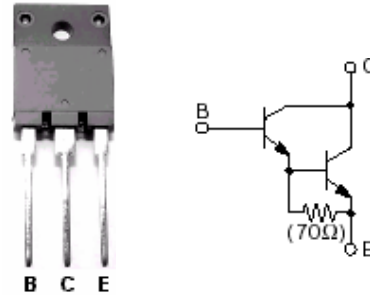


Fig.1 simplified outline (TO-3PML) and symbol

Absolute maximum ratings($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	160	V
V_{CEO}	Collector-emitter voltage	Open base	150	V
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current		8	A
I_B	Base current		1	A
P_C	Collector power dissipation	$T_C=25$	75	W
T_j	Junction temperature		150	
T_{stg}	Storage temperature		-55~150	

Silicon NPN Darlington Power Transistors**2SD2438****CHARACTERISTICS****T_j=25** unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=30mA$; $I_B=0$	150			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=6A$; $I_B=6mA$			2.5	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=6A$; $I_B=6mA$			3.0	V
I_{CBO}	Collector cut-off current	$V_{CB}=160V$; $I_E=0$			100	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=5V$; $I_C=0$			100	μA
h_{FE}	DC current gain	$I_C=6A$; $V_{CE}=4V$	5000			
f_T	Transition frequency	$I_C=1A$; $V_{CE}=12V$		80		MHz
C_{OB}	Output capacitance	$I_E=0$; $V_{CB}=10V$; $f=1MHz$		85		pF

Switching times

t_{on}	Turn-on time	$I_C=6A$; $R_L=10$ $I_{B1}=-I_{B2}=6mA$ $V_{CC}=60V$		0.6		μs
t_s	Storage time			10.0		μs
t_f	Fall time			0.9		μs

◆ **h_{FE} classifications**

O	P	Y
5000-12000	6500-20000	15000-30000

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PACKAGE OUTLINE

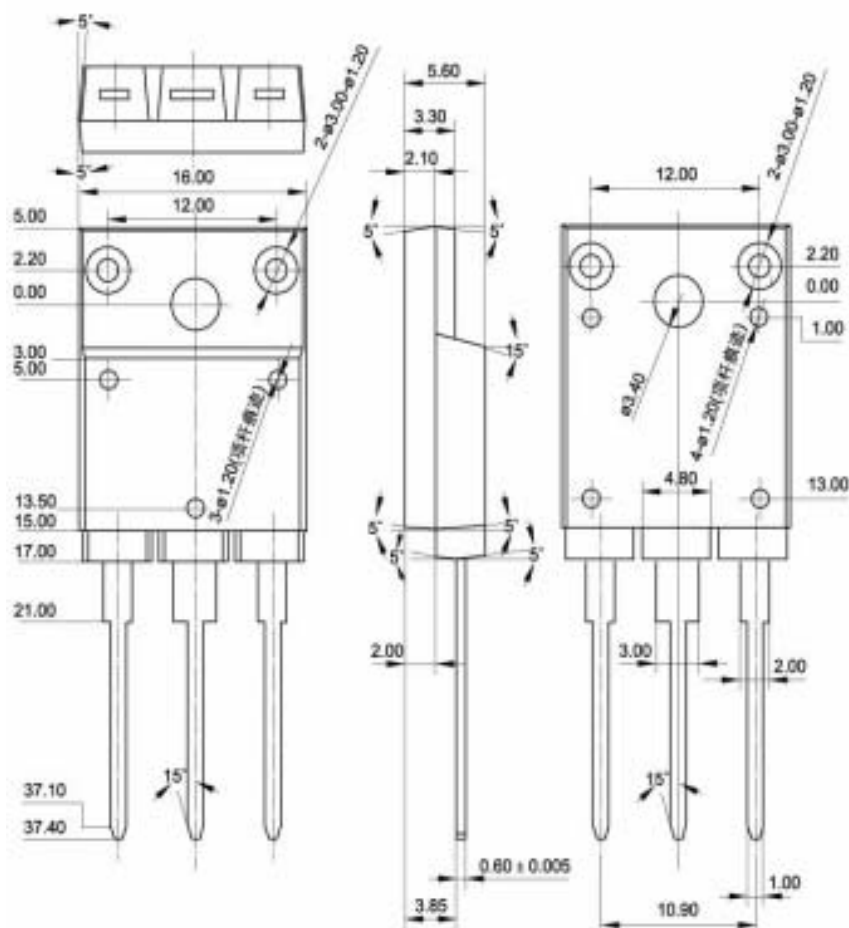


Fig.2 Outline dimensions