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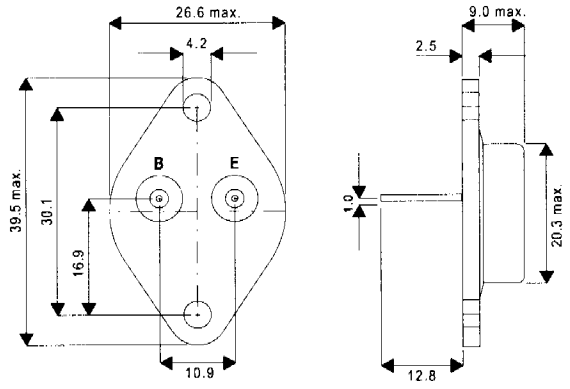
PMD18D100

NPN DARLINGTON POWER TRANSISTOR

MECHANICAL DATA
Dimensions in mm



TO3 Package.
Case is collector.

FEATURES

- **TO3 PACKAGE**
- **100V**
- **100A PEAK**
- **300 WATTS**

DESCRIPTION

The PMD18D100 is an NPN Darlington Power Transistor in a hermetic TO3 package. The device is a monolothic epitaxial structure with built in base-emitter shunt resistor

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C unless otherwise stated)

V_{CBO}	Collector – Base Voltage (Open Emitter)	100V
V_{CEO}	Collector – Emitter Voltage (Open Base)	100V
V_{EBO}	Emitter – Base Voltage (Open Collector)	5V
I_C	Collector Current Continuous	50A
	Peak	100A
I_B	Base Current	1.5A
P_D	Total Power Dissipation at T_{case}= 50°C	300W
T_J, T_{STG}	Operating Junction and Storage Temperature	-65 to 200°C
θ_{JC}	Thermal Resistance	0.4°C/W

ELECTRICAL CHARACTERISTICS (T_J = 0 to 200°C, unless otherwise stated)

	Parameter	Test Conditions		Min.	Typ.	Max.	Units
	ON CHARACTERISTICS						
$V_{CE(sat)}$	Collector - Emitter Saturation Voltage*	I_C = 30A	I_B = 120mA			2	V
$V_{BE(on)}$	Base - Emitter Turn-on Voltage*	I_C = 30A	V_{CE} = 3V			2.8	V
$V_{BE(sat)}$	Base - Emitter Saturation*	I_C = 30A	I_B = 120mA			2.8	V
h_{FE}	DC Current Gain*	I_C = 30A	V_{CE} = 3V T_j = 25°C	1000		20000	
$I_{s/b}$	Forward Bias Secondary Breakdown Current	V_{CE} = 30V 1 sec non-repetitive pulse	T_A = 25°C	10.0			A
	OFF CHARACTERISTICS						
$V_{(BR)CEO}$	Collector Emitter Breakdown Voltage (Base Open)*	I_{CE} = 100mA	T_j = 25°C	100			V
$V_{(SUS)CER}$	Collector Emitter Sustaining Voltage*	I_{CE} = 100mA	R_{BE} = 2.2KΩ	100			V
I_{EBO}	Emitter Base Leakage Current	V_{EB} = 5V	I_C = 0A			6.0	mA
I_{CER}	Collector Emitter Leakage Current	V_{CE} = 67V	R_{BE} = 2.2KΩ			15.0	mA
	DYNAMIC CHARACTERISTICS						
C_{ob}	Output Capacitance	V_{CB} = 10V f = 1MHz	I_E = 0A T_j = 25°C			1200	pF
h_{fe}	Small Signal Current Gain	I_C = 18A f = 1KHz	V_{CE} = 3V T_j = 25°C	300			
h_{fe}	Common Emitter Short Circuit Forward Transfer Ratio	I_C = 18A f = 1MHz	V_{CE} = 3V T_j = 25°C	4			

* Pulse Tested with pulse width ≤ 300μs, and duty cycle < 2%