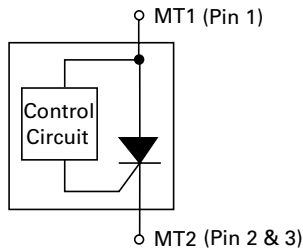


**PLED5HT SOT-89 Protector**

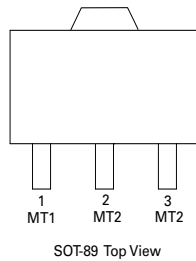
**OBSOLETE** DATE: 31-12-2018 PCN/ECN#: LFPCN41214  
REPLACED BY: PLEDxN



**Schematic Symbol**



**Pinout**



**Description**

This PLED5HT Open LED Protector component provides three methods for increasing the reliability of LED lighting:

- 1) If one of the LEDs in an array fails open, this component provides a substitute electronic path so that the array continues to function
- 2) It protects against ESD events up to  $\pm 8$  kV for contact discharges and  $\pm 15$  kV for air discharges per the IEC 61000-4-2 electrostatic immunity standard.
- 3) It provides protection in the case of accidental reverse battery or power connection.

High reliability of lighting functions such as traffic lighting, aircraft lighting, advertising lighting, and runway lighting demand the use of a component such as the PLED5HT.

**Features & Benefits**

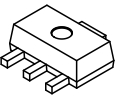
- Reverse Battery/Power Protection
- Resets After Power Cycle
- Open LED bypass up to 700 mA
- Fast Switching
- ESD, IEC 61000-4-2,  $\pm 8$ kV contact,  $\pm 15$  kV air
- Low Turn-On (Trigger Voltage)
- SOT 89 Package

**Electrical Characteristics**

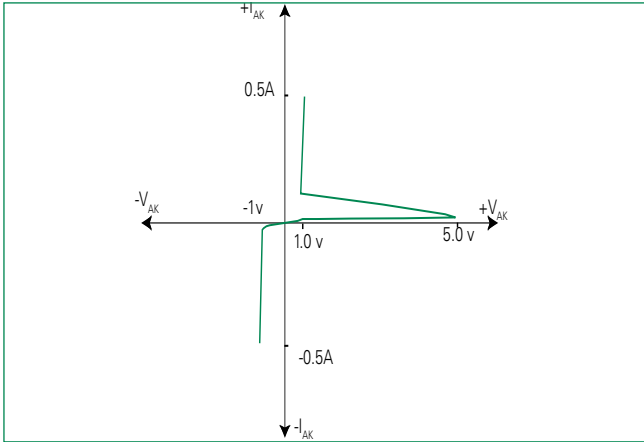
Symbol	Parameter	Conditions	MIN	TYP	MAX	Unit
$V_{AK}$	Input Voltage	-	-	-	40	V
$V_{TO}$	Turn-On Voltage	-	4.65	4.9	5.15	V
$I_S$	Switching Current	-	-	-	20	mA
$V_{OS}$	On-State Voltage	$I_{AK} = 700$ mA	-	1.6	1.8	V
$I_{OS}$	On-State Current	(with adequate heat sinking)	-	-	700	mA
$V_{OSR}$	Reverse On-State Voltage	$I = 700$ mA	-	1.6	1.8	V
$I_{OSR}$	Reverse On-State Current	-	-	-	700	mA
$I_{DRM}$	Leakage Current	$V_{AK} = 3.5$ V	-	100	150	$\mu$ A
$V_{ESD}$	ESD Withstand Voltage <sup>1</sup>	IEC 61000-4-2 (Contact)	-	$\pm 8$	-	kV
		IEC 61000-4-2 (Air)	-	$\pm 15$	-	kV

Notes: <sup>1</sup>Parameter is guaranteed by design and/or component characterization.

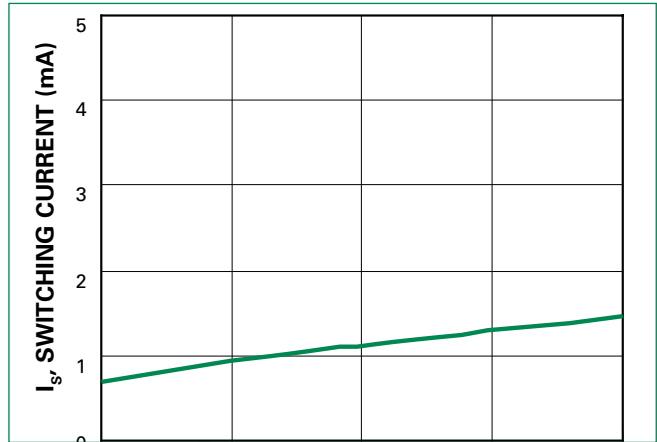
**Thermal Considerations**

Package	Symbol	Parameter	Value	Unit
 <b>SOT 89</b>	$T_{OP}$	Operating Temperature	-40 to 85	°C
	$T_J$	Maximum Junction Temperature	150	°C
	$T_{STOR}$	Storage Temperature	-65 to 150	°C

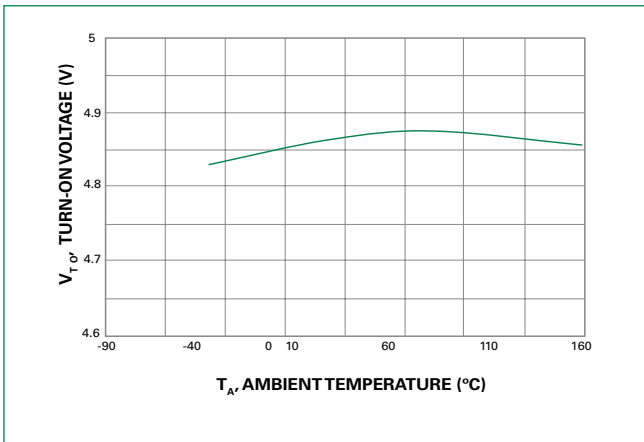
**V-I Characteristics**



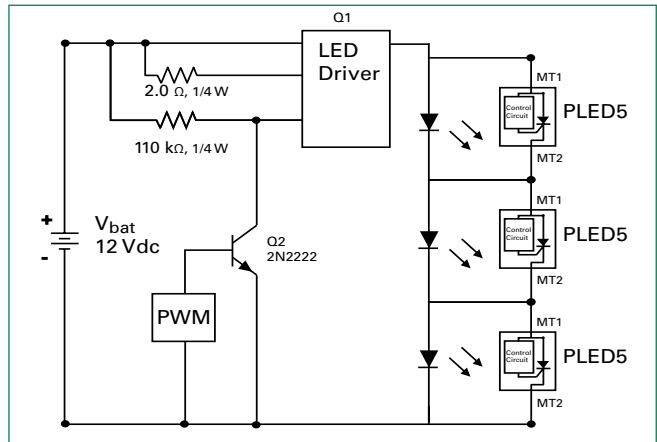
**IS vs Temperature**



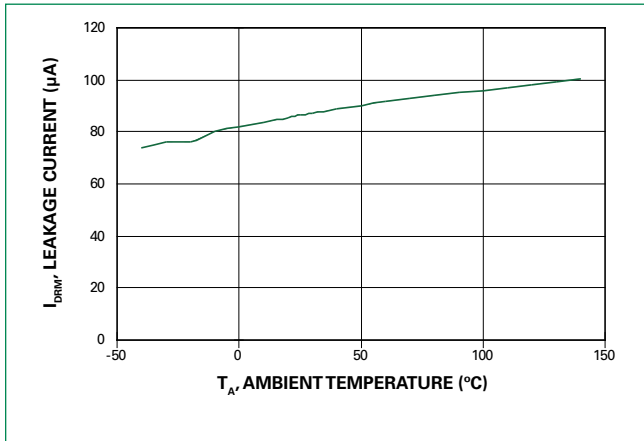
**Turn On Voltage vs Temperature**



**LED Application and Interference Test Circuit**



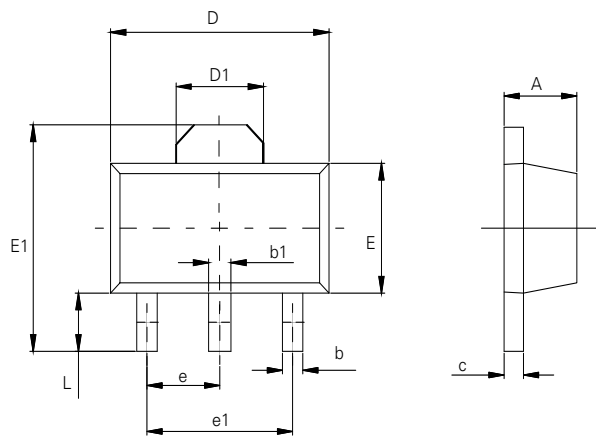
**Leakage vs Temperature**



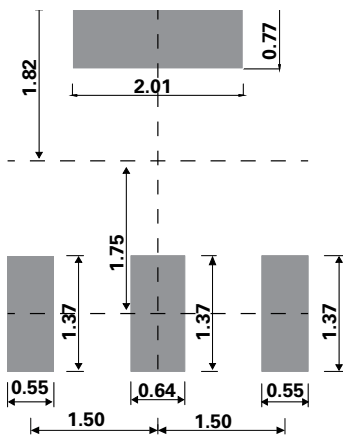
**Ordering Information**

Catalog Number	Package Type	Quantity Per Reel
PLED5HT	SOT 89	1000 Pieces

**Package Dimensions – SOT-89**



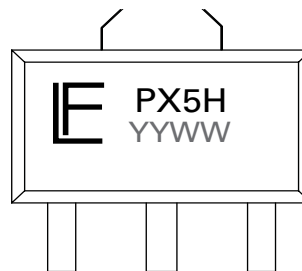
**Pad Layout for SOT-89**



(Dimensions are in millimeters)

Dimension	Millimeters		Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.197
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF		0.061 REF	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP		0.060TYP	
e1	3.000 TYP		0.118TYP	
L	0.900	1.200	0.035	0.047

**Part Marking System**



Part Numbering System