



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

N-Channel Silicon MOSFET

ATP602 — General-Purpose Switching Device Applications

Features

- ON-resistance $R_{DS(on)}=2.1\Omega$ (typ.)
- 10V drive
- Input capacitance $C_{iss}=350\text{pF}$ (typ.)
- Halogen free compliance

Specifications

Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

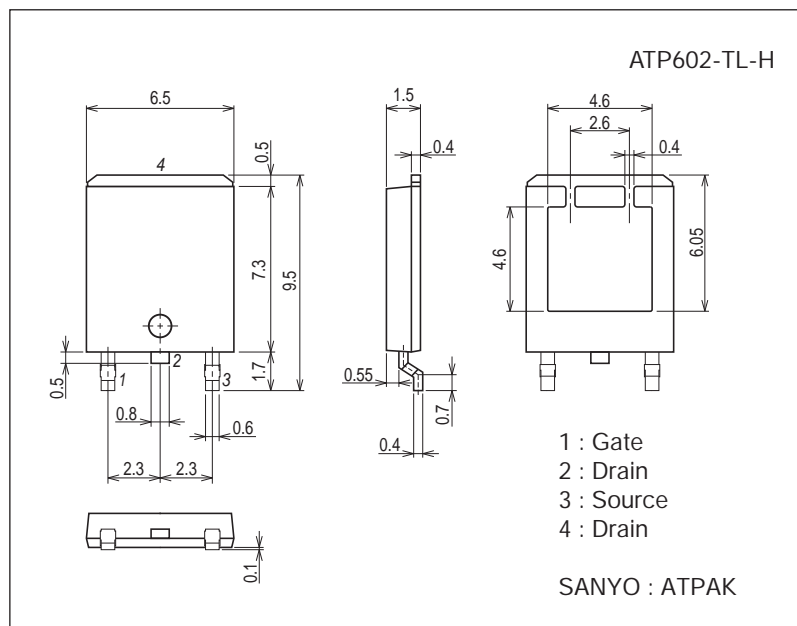
Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		600	V
Gate-to-Source Voltage	V_{GSS}		± 30	V
Drain Current (DC)	I_D		5	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	15	A
Allowable Power Dissipation	P_D	$T_c=25^\circ\text{C}$	70	W
Channel Temperature	T_{ch}		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$
Avalanche Energy (Single Pulse) *1	E_{AS}		74	mJ
Avalanche Current *2	I_{AV}		5	A

Note : *1 $V_{DD}=99\text{V}$, $L=5\text{mH}$, $I_{AV}=5\text{A}$ (Fig.1)*2 $L \leq 5\text{mH}$, Single pulse

Package Dimensions

unit : mm (typ)

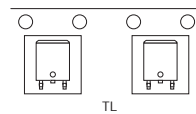
7057-001



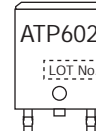
Product & Package Information

- Package : ATPAK
- JEITA, JEDEC : -
- Minimum Packing Quantity : 3,000 pcs./reel

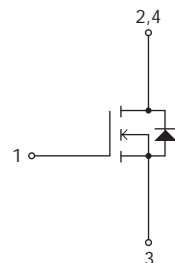
Packing Type: TL



Marking



Electrical Connection



SANYO Semiconductor Co., Ltd.

<http://semicon.sanyo.com/en/network>

ATP602

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=10mA, VGS=0V	600			V
Zero-Gate Voltage Drain Current	IDSS	VDS=480V, VGS=0V			100	μA
Gate-to-Source Leakage Current	IGSS	VGS=±30V, VDS=0V			±100	nA
Cutoff Voltage	VGS(off)	VDS=10V, ID=1mA	3		5	V
Forward Transfer Admittance	yfs	VDS=10V, ID=2.5A	1.5	2.9		S
Static Drain-to-Source On-State Resistance	RDS(on)	ID=2.5A, VGS=10V		2.1	2.7	Ω
Input Capacitance	Ciss	VDS=30V, f=1MHz		350		pF
Output Capacitance	Coss			68		pF
Reverse Transfer Capacitance	Crss			15		pF
Turn-ON Delay Time	td(on)	See Fig.2		14.2		ns
Rise Time	tr			37.4		ns
Turn-OFF Delay Time	td(off)			36.2		ns
Fall Time	tf			20.4		ns
Total Gate Charge	Qg	VDS=200V, VGS=10V, ID=5A		13.6		nC
Gate-to-Source Charge	Qgs			3.4		nC
Gate-to-Drain "Miller" Charge	Qgd			7.2		nC
Diode Forward Voltage	VSD	IS=5A, VGS=0V		0.9	1.2	V

Fig.1 Avalanche Resistance Test Circuit

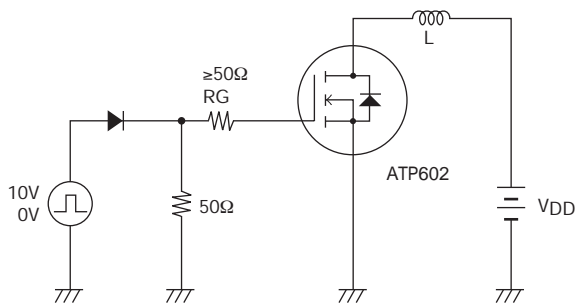
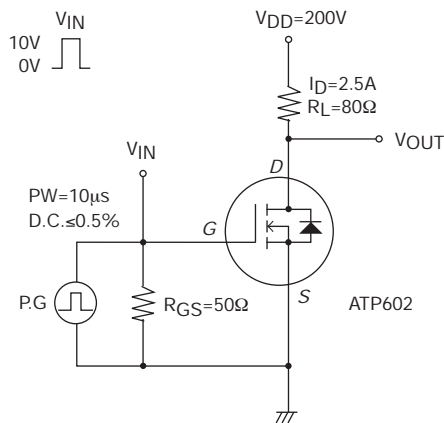
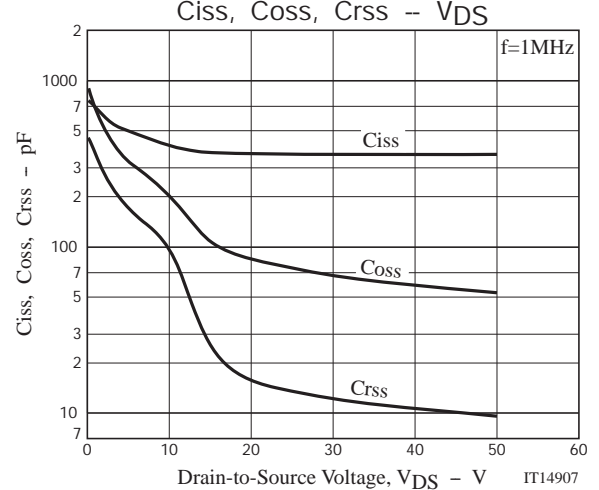
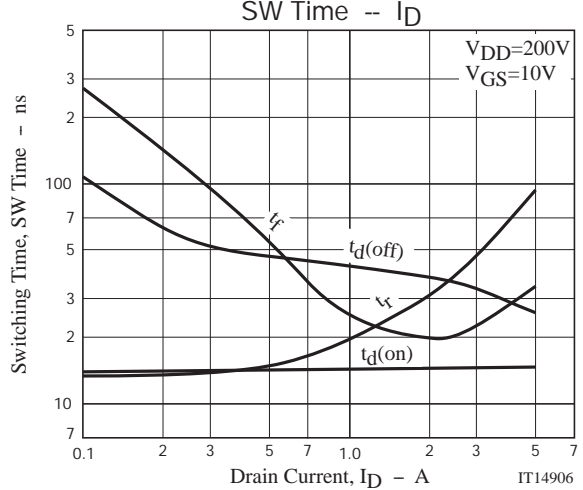
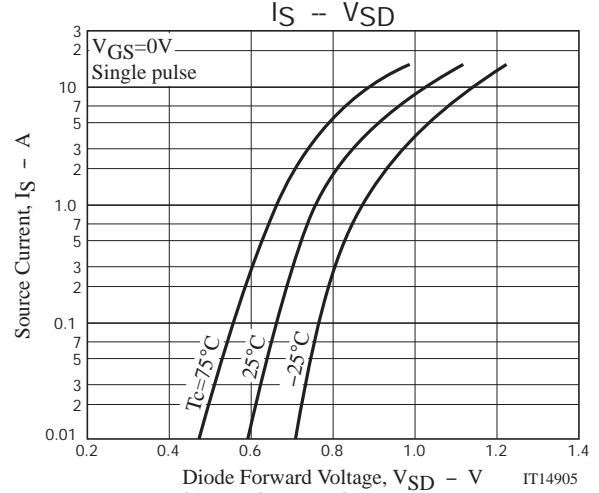
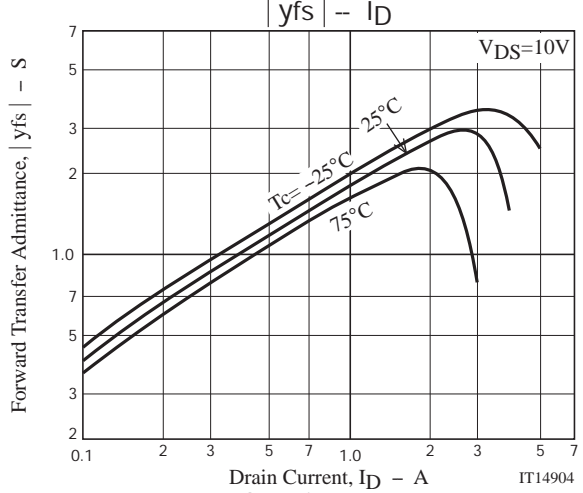
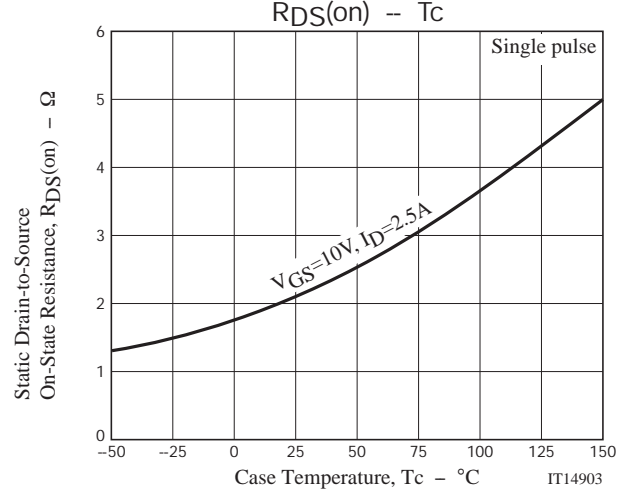
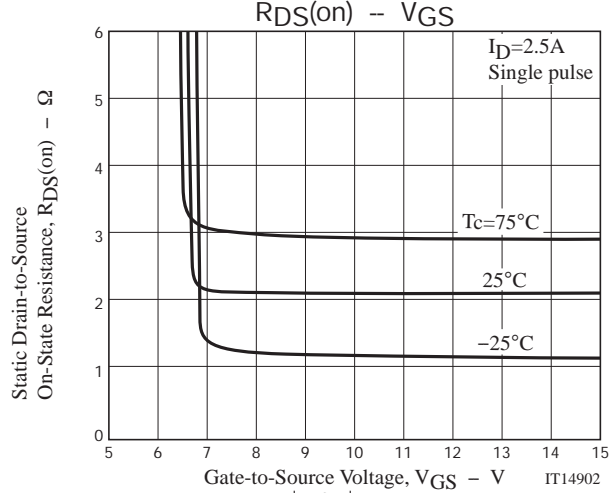
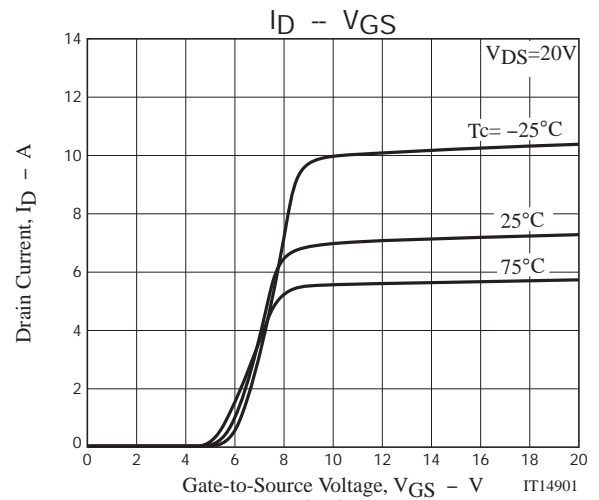
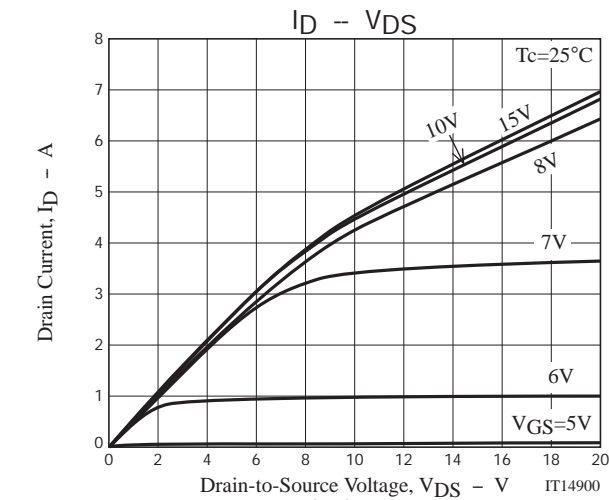


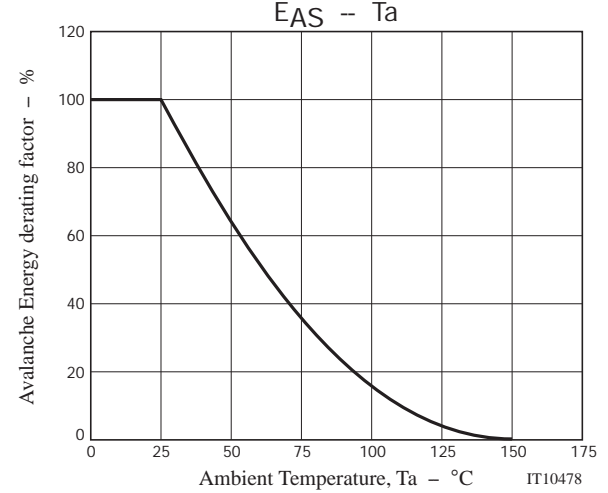
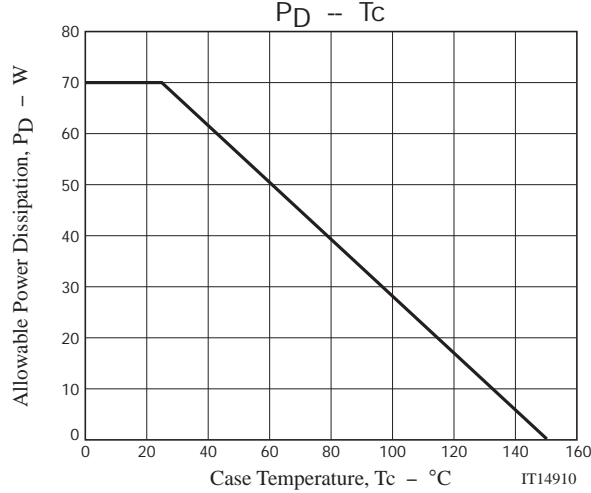
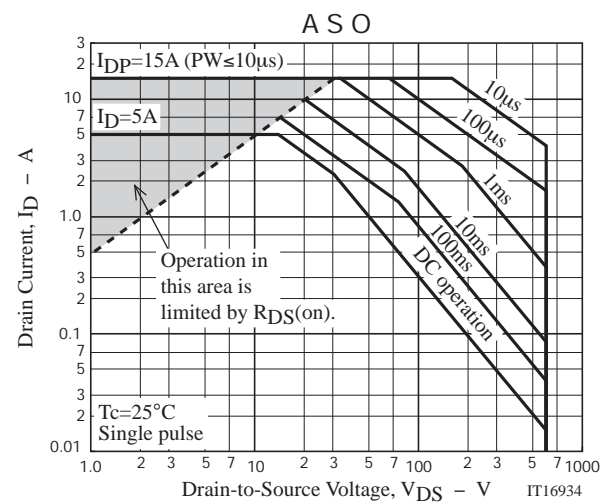
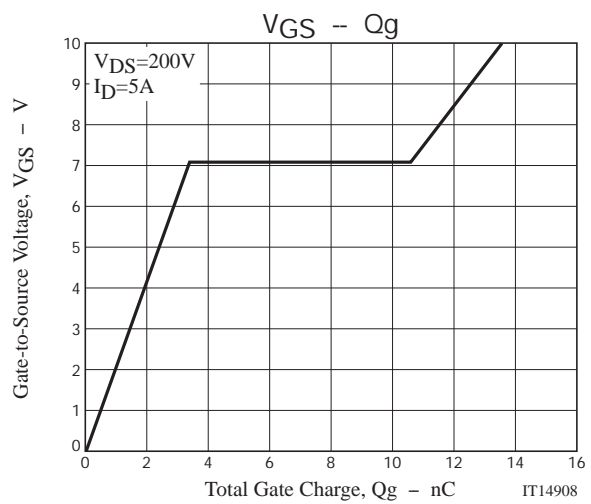
Fig.2 Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
ATP602-TL-H	ATPAK	3,000pcs./reel	Pb Free and Halogen Free





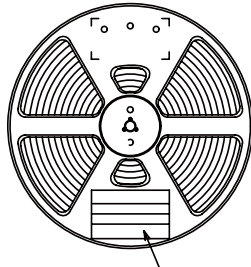
Taping Specification

ATP602-TL-H

1. Packing Format (TL)

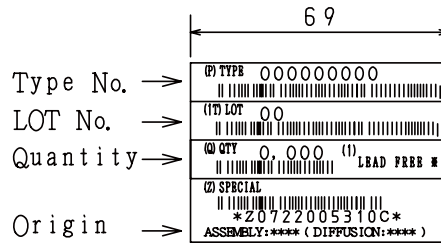
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	INNER BOX SD-C-18	OUTER BOX SD-A-18
ATPAK	ATP	3,000	3,000	15,000	1 reels contained Dimensions:mm (external) 340×340×28	5 inner boxes contained Dimensions:mm (external) 355×355×165

Packing method



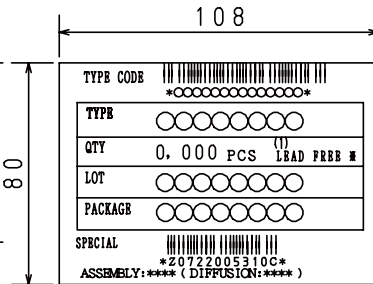
Reel label

Reel label, Inner box label (unit:mm)



Outer box label

It is a label at the time of factory shipments.
The form of a label may change in physical distribution process.



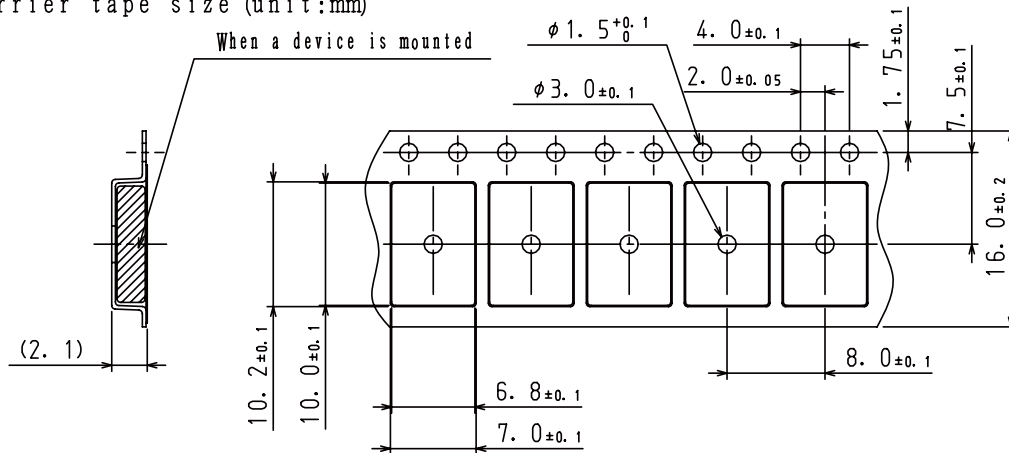
NOTE (1)

The LEAD FREE * description shows that the surface treatment of the terminal is lead free.

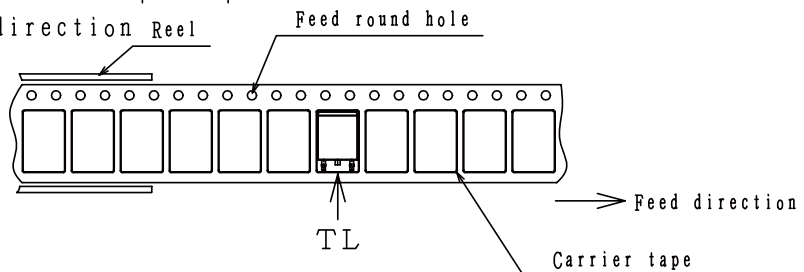
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

2-1. Carrier tape size (unit:mm)

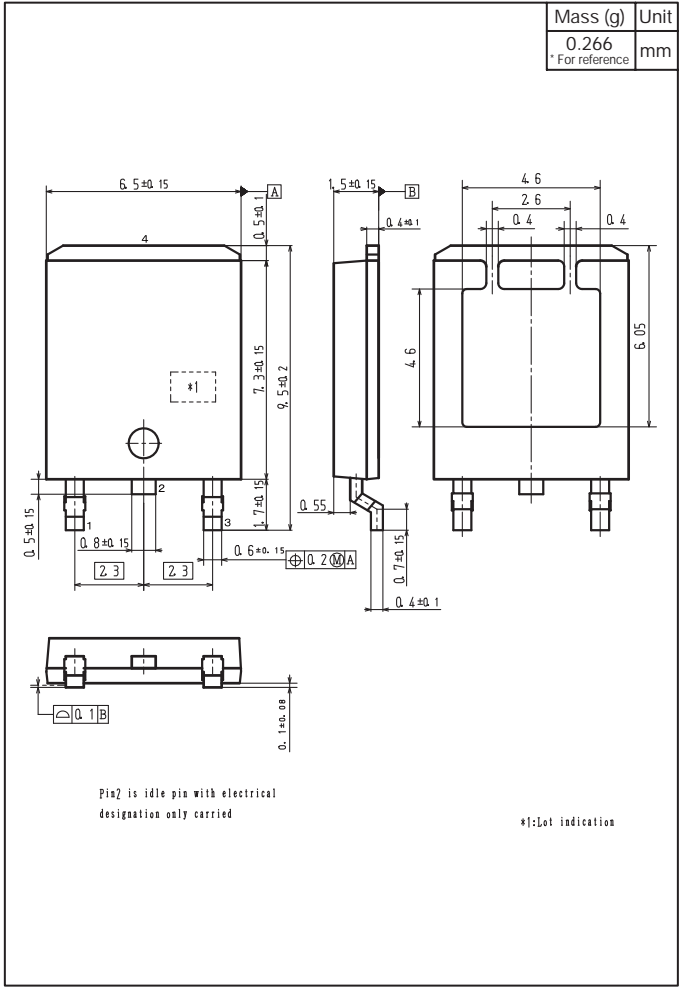


2-2. Device placement direction Reel

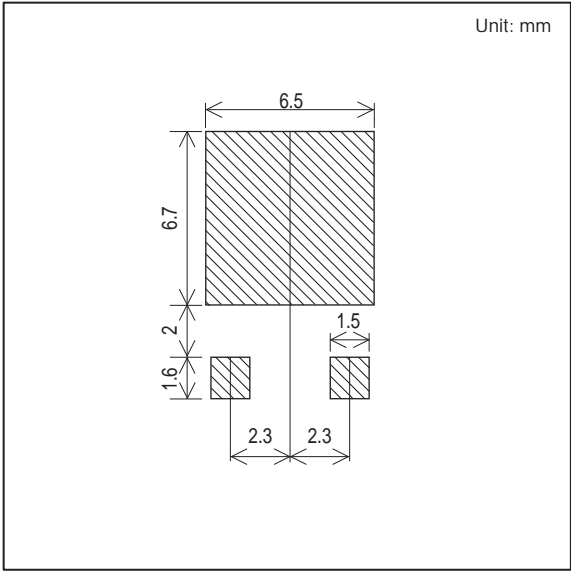


The one electrode terminals on feed hole side...TL

Outline Drawing
ATP602-TL-H



Land Pattern Example



Note on usage : Since the ATP602 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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